Virginia Medical Monthly

Official Organ of the Medical Society of Virginia

Vol. 57, No. 5.
WHOLE No. 938.

RICHMOND, VA., AUGUST, 1930

20 CENTS A COPY
$2.00 A YEAR

BI-LATERAL URETERO-LITHIASIS WITH REPORT OF INTERESTING CASE.*

By STANLEY H. GRAVES, M. D., Norfolk, Va.

Bi-lateral uretero-lithiasis is one of the most interesting and perplexing subjects confronting the urologist of today. Especially so on account of the pathogenic interpretation, its serious prognosis, and the different therapeutic and operative problems met with in so many cases. Indeed, it can be said that bi-lateral uretero-lithiasis is a serious affection, but one that can be dealt with surgically with very gratifying results.

In looking through the records of the urological department of the Sarah Leigh Hospital, for the past nine years, I find that I have treated as follows:

Ureteral stricture	148
Ureteral calculus	99
Bi-lateral ureteral calculus	5

The general belief is that the greater portion, if not all, ureteral calculi have their origin in the kidney. Once the stone has entered the ureter it is quite likely that it will ultimately enter the bladder. The time required for a stone to pass through the whole length of the ureter will vary in individual cases from a few days to many months. As the delay in the passage down the ureter is increased, so is the likelihood diminished of a successful journey, for the stone is gradually increasing in size all the time.

In order that the common sites for retention of stone in the ureter may be more fully understood, it will be necessary to consider the normal points of narrowing and dilatation along the course of the ureter.

From above down these constricted areas, are the following situations: at the commencement of the ureter, where it crosses the pelvic brim, where it enters the bladder wall, and at the ureteric orifice. Behind each of these constrictions there is a dilatation which is a favorable locality for a stone to lie and develop.

*Read before the Seaboard Medical Association of Virginia and North Carolina, in Newport News, Va., December 3-6, 1929.

From above down these expanded portions, are the renal pelvis, the ileolumbar spindle, and the pelvic spindle. Also there is a small dilatation in the bladder wall itself.

A stone in the ureter which cannot move on beyond a certain constriction does not necessarily remain fixed. The dilatation of the ureter resulting from the obstruction, in many cases, enables the stone to move freely up and down the ureter, and back to the point of obstruction, according to the action of gravity. This stone may traverse the entire length of the ureter, and even re-enter the kidney at times. The practical importance of this capacity a stone has for moving about lies in the fact that a calculus, which has previously been identified by X-ray in a lower part of the ureter, may be found to be absent from its location when sought at operation, especially if the patient is placed in the Trendelenberg position.

Bi-lateral calculi of the ureter, like that of the kidney, are more frequent in man than in woman, and the greatest number will be found between the ages of 30 and 40 years. There seems to be a slight difference of opinion as to the frequency, but Jeanbraw states that out of 220 cases examined, he found unilateral stone in 90 per cent and double in 3.6 per cent. The surface of these stones may be rough or smooth, and sometimes may have a groove or grooves along which the urine may trickle.

Ureteral calculi frequently have a resemblance in shape and size to coffee beans, olive, date or plum stones, and may ultimately reach the size and shape of a hen's egg. The ureter may be the seat of the stone for many years without giving rise to extreme renal atrophy and marked dilatation or infection. On the other hand, in those cases where the ureter has been the seat of an infected stone for a prolonged period, the changes in the kidney are more severe. There will be found an enlargement of all the calyces, the renal pelvis and collecting of tubules. Atrophy begins with

XUM

a thickening of the renal cortex and flattening of the papillae. These changes may be so progressive that all excreting tissues ultimately disappear, and a mere fibrous shell remains.

The case I now wish to report is that of a female; white; age 43; married; three children, the youngest 13 years. Previous health has been fairly good. One week prior to coming to me she was taken very ill, suffering from pain in the abdomen and left side. She was removed to a hospital two days later, suffering from high temperature and chills; pus, blood and albumin were found in the urine. X-ray examination showed a shadow in the left lower ureter. Attempts were made to catheterize the ureter, but the catheter failed to pass the obstruction.

This patient entered the Sarah Leigh Hospital, March 9, 1929, very sick, suffering from nausea, vomiting, high temperature, and an occasional chill. Abdomen was slightly distended, with marked tenderness over the left kidney and down the ureter, with some rigidity of the muscles. An enlarged kidney could be palpated. Heart and lungs were negative. Hemoglobin 76 per cent, erythrocytes 4,570,000, leukocytes 19,200, small lymphocytes 6, large lymphocytes 2, polymorphonuclear neutrophiles 92. The urine was dark amber, cloudy, acid, specific gravity 1.016, albumin, hyaline and granular casts, pus and blood were found. Her blood urea was 37.6 mgs. per 100 c.c. of blood. Blood sugar 165 mgs. per 100 c.c. of blood. Blood culture gave no growths. Malaria negative. Radiograph revealed a shadow 1¼ cm. long, 1 cm. wide, in the left lower ureter; and calculus in right kidney 1 cm. x 1 cm. which appeared to be lodged in the middle major calyx. *Cystoscopy:*—the right ureter was easily catheterized with a No. 5 catheter, and function appeared good. The left ureter could not be catheterized farther than 1 to 1½ inches when obstruction was met. Every effort was made to pass this obstruction but failed.

Two days later another cystoscopy was done; No. 4 catheter was passed by the obstruction on the left side and about 16 c.c. of milky urine and pus was aspirated back. This catheter was left in the ureter for two days, when it was removed and a No. 5 was introduced and left in, a large quantity of dirty urine and pus evacuated around and through the catheter. Irrigations were carried on at intervals through the catheter. Five and seven days later efforts were made to get larger dilators by the stone but without success.

On account of the continued serious illness of the patient, operation was decided upon. On March 26, 1929, I did a left ureterolithotomy. A low left rectus incision was made, the peritoneum stripped back, the ureter identified and traced downward, locating the stone just over the large vessels. The ureter was loosened and lifted from its bed. A three-quarter inch incision was made and a stone 1¼ cm. long by 1 cm. wide removed by small forceps. Here a No. 5 ureteral catheter was passed up the ureter and the lower end threaded into the bladder. The incision in the ureter was closed by three para-mucous catgut sutures. A counter opening was made in the lower flank and two cigarette drains inserted. The rectus incision was then closed without drain. The patient made a splendid recovery. The catheter, left in the bladder and ureter to insure drainage and prevent stricture, was removed on the tenth day through the cystoscope.

Cystoscopy was performed during April and May, the ureter dilated and function was good. Urine contained an occasional blood cell and two plus pus. The patient was allowed to leave the hospital the day following the last cystoscopy but was warned as to the stone in the right kidney and advised that this should have attention as soon as she had regained her health and strength.

On August 6, 1929, she was re-admitted to the hospital, just a little over three months after leaving. When admitted she was quite sick, gave a history of severe pain in the right kidney, radiating down the ureter and into the right thigh. The first pain was ten days prior, steadily growing more intense, with fever, chills, nausea and vomiting.

When the patient was examined there was a high temperature with nausea, marked tenderness over the right kidney, pain over front of abdomen and thickening and enlargement in the kidney area. Blood examinations showed erythrocytes 4,400,000; leukocytes 18,900; small lymphocytes 13; polynuclear 87; blood urea 30 mgs. per 100 c.c. of blood; urine dark amber, cloudy, mildly acid, albumin, specific gravity 1.016, four plus pus.

The next day cystoscopy was done and a No. 5 catheter passed into the ureter for 1½

inches, followed by a stream of pus. A No. 4 catheter was passed for about 4 inches and left in through the night. Shadowgraph indicated catheter against a stone in the lower ureter, but no stone in the kidney. A diagnosis of abscess of the right kidney with block of the ureter was made, and drainage of the kidney was determined.

The patient was taken to the operating room on the following day and a three-inch lumbar incision made. The kidney was exposed and found much enlarged and badly inflamed. The abscess was located with an aspirator. An incision large enough to admit the finger was made through the cortical substances, with the expulsion of a large quantity of dirty urine and pus. A soft rubber tube was inserted and the wound closed around the tube.

Convalescence was satisfactory, and on August 29th a right side uretero-lithotomy was performed, duplicating the procedure employed on the left side. The only difference encountered was a more inflamed ureter, dilated and full of pus. The stone was a shade smaller and more firmly imbedded than that found on the left. Ten days later the catheter in the ureter was withdrawn from the bladder and under vision of the cystoscope the ureter appeared to be functioning well. The patient improved rapidly and left for home one month from the time of the last operation. Since this time, the patient has returned twice for ureteral dilatation and kidney lavage. Function is good, there is still an occasional blood cell and two plus pus found in a catheterized specimen.

In considering the treatment of a calculus in the ureter, we have three alternatives. First, the stone may be left to pass by natural means. Second, its passage may be aided by transcystoscopic means. Third, removal by open operation.

In a good proportion of cases the patients solve their own problem by passing their stones unassisted. Kretsner notes that in 140 cases he found this to be the result in 26 per cent. This unaided passage is necessarily limited to calculi within certain dimensions. Stones with a transverse diameter of not more than 0.5 cm. are likely to be ultimately passed in this manner. Cases of this nature must be kept under frequent and regular supervision. Radiograms must be made and the patient is to take moderate exercise, and drink large quantities of water.

When conservative measures have failed, the onward progress of the stone should be hurried by some intra-vesicle or ureteral manipulation. As a rule this should take the form of the passage of one or more catheters up the ureter and beyond the stone. This method is the one most likely of success. The catheter or catheters should be left in the ureter for two or three days, and here too you have provided for drainage of the kidney and dilatation of the ureter. When two catheters have been passed, they should be withdrawn together, as the stone is frequently found between them.

Stones do not always pass quickly, many days are often required, and it may be necessary to repeat manipulations several times. Surgeons, with a large experience of this type of treatment, show a high percentage of satisfactory results. Bugbee records 326 successes out of 347 cases, and Crowell 88 out of 98 cases.

There are several makes of ureteral dilators which are often of great help and assistance. The ureteric orifice will at times require slitting or fulguration to admit the passage of a stone through a constricted meatus.

Types requiring operation will largely depend upon your individual surgical judgment, and clinical findings. Such cases where transcystoscopic methods have been tried and have failed, will leave no alternative. Stones that will rarely yield to any other treatment than operative are calculi 2 cm. and above in diameter in any part of the ureter, most stones 1 cm. and over in diameter, and which are not in the lower third of the ureter, encysted and impacted stones as shown by repeated radiographs, and where the obstruction has completely blocked the ureter with a hydronephrosis and where the stone has set up a peri-ureteritis. Patients who react severely to cystoscopic manipulations, and where there is an acute infection with definite enlargement of the kidney or where there exists some disease of the lower urinary tract, should be submitted to open surgery.

REFERENCES.

1. Cabot, Hugh: Modern Urology.
2. Bickham, Warren S.: Operative Surgery, 1924.
3. White, H. P. Winsbury: Stone in the Urinary Tract, 1929.
4. Valentine, J. J.: Case Reports. *American Journal of Surgery*, 6, 1929.
5. Chute, Arthur L.: Symptoms and Diagnosis of

Urinary Stone. *American Journal of Surgery*, Vol. 7, 1929.
6. Campbell, M. F.: Ureteral Obstructions in Infancy. *American Journal of Surgery*, Vol. 5, 1928.
7. Frater, Kenneth and Braasch, W. F.: The Incidence of Stricture of the Ureter. *Surgery, Gynecology & Obstetrics*, Vol. 48, No. 2; 1929.
8. Eisendrath, Daniel N.: Simplified Technic for Removal of Calculi in the Pelvic Portion of the Ureter. *Surgery, Gynecology & Obstetrics*, Vol. 48, No. 3, 1929.
9. Porter, R. P., and Sexton, W. G.: Anomalies of the Ureter and the Kidney Pelvis. *Radiology*, Vol. 12, No. 3, 1928.
10. Oppenhimer, Rudolph: Ureteral Lithotomy at the Juxtavesical End of the Ureter in the Female. *Urologic & Cutaneous Review*, Vol. 13, No. 11; 1928.
11. Bovetti, Caesare: Bilateral Renal Calculi. *Urologic Review*, Vol. 33, No. 7, 1929.
12. Rothschild, Alfred: The Removal of Stones in the Ureter. *Urologic & Cutaneous Review*, Vol. 32, No. 6, 1928.
13. Russell, H. P.: Nephrolithiasis. *Urologic & Cutaneous Review*, Vol. 33, No. 10, 1929.

WHEN A WOMAN SHOULD HAVE A BABY, AND WHY.*

By LEWIS M. ALLEN, M. D., Winchester, Va.

The subject I have to bring before you is rather homely, but I have selected it for two reasons; first of all, because it is one that every general obstetrical practitioner may meet daily, and, secondly, because in talking about some of the things that I shall mention there seems to be considerable difference of opinion and misunderstanding.

All of us who know anything about obstetrics know that the period of pregnancy extends over varying lengths of time, though it generally is reckoned at two hundred and eighty days, ten lunar or nine calendar months, forty weeks. It has been known to extend anywhere up to three hundred and thirty days, or fifty days over the regular time. At any rate, regardless of the exact number of days over which pregnancy may extend, we certainly know that it may extend far beyond the two hundred and eighty days, or forty weeks.

We do not know the causes of labor. There are many theories, entirely too many for me to consider in ten minutes. Those that appeal to me most are the increased irritability of the uterus, and the over-distention of that organ. In multiple pregnancies and hydramnios, premature delivery is more apt to occur. If at the end of forty weeks the uterine contents should cease to develop and grow and increase in size, etc., all would be well and good; but this is not the story. The body of the fetus not only increases in bulk, but the bony parts, especially the head, become more completely ossified and the sutures and fontanels almost disappear if allowed to go too far. So *that* most important process in the mechanism of labor, namely, the molding of the head and its compression because of the sutures and fontanels, is lost. There is no possibility of the head molding. The uterine contractions may be ever so hard, the resistance not so great in front, but that head will not mold. If the pelvic canal be sufficiently large to allow the head to pass through without any change, then it is all right, but very frequently it is not. By reason of the fact that women are allowed to go over term in these cases, there will result a number of dystocias,—a certain number of labors that will have to be terminated artificially; otherwise, there will be many serious consequences. In order that these may be prevented, it is my suggestion (and this is the message that I bring today, although nothing new, since it ought to be as old as obstetrics) that you adopt a method I have been practicing for many years, which is that these women should be followed closely during the latter weeks of pregnancy and examined carefully. I am not referring now to the kidneys or anything about the development of eclampsia but to palpating the abdomen to determine the size of the fetus in relation to the pelvic canal. When the fetus attains sufficient size to live externally, especially if the woman has had difficulty in delivery before, then induce labor promptly. Now, this does not mean in all cases nor in the majority of cases, but it means in a certain number, and I believe by doing this many difficult, long and tedious labors will be prevented.

We must not forget the dangers in this, the danger in estimating the size of the fetus. I have been asked how I know when the fetus has reached such size that it will live externally. I answer *that* by saying I do not know, but that by experience and by education of these fingers we can tell approximately, and recognize at least the very much oversized fetus in utero, and induce labor and prevent many of the troubles that might happen.

All of us who practice obstetrics have in the past heard women boast about the size of

*Informal talk before the annual meeting of the Medical Society of Virginia, held at Charlottesville, Va., October 22-24, 1929.

the babies they have given birth to, and I am sorry to say that I have heard doctors boast about the size of the babies they have delivered. I make this prophecy, that the time will come when, not only will a community be disgraced by the incidence of typhoid fever therein, but a doctor will not boast if he allows a woman to give birth to an enormously large baby, a baby of nine or ten or twelve pounds. But the fetus does grow rapidly in the uterus in the later stages, and it is necessary to watch women carefully during the latter part of pregnancy. By doing this, many difficult labors may be prevented.

CONSERVATIVE OBSTETRICS.*

By GREER BAUGHMAN, M. D., F. A. C. S., Richmond, Va.
Professor of Obstetrics, Medical College of Virginia; Obstetrician to The Memorial, St. Philip, and Stuart Circle Hospitals.

Conserve is defined in the new Oxford dictionary as to keep from destruction. I would define conservative obstetrics as that plan of procedure that allows nature to attend to the care of pregnancy or labor until one is persuaded that intervention is indicated in the interest of the mother's life or health or in the interest of the infant's life or health.

Conservatism is really a state of mind. If we are conservative thinkers we will be conservative actors. The doctor who is hyper conservative is often more dangerous in obstetrics than the wildest radical.

A doctor hardly has the right to classify himself as a conservative or a radical in obstetrics until he has had a large experience added on to a good theoretical knowledge of obstetrics. He may have the conservative or the radical state of mind but it requires a considerable experience with a great variety of cases before he can finally classify himself.

Obstetrics has been practiced in a conservative way for as far back as we have record. The taking of normal obstetrics from the hands of the midwife as we practice it here in America could hardly be regarded as radical. Elevating the delivery of women to a clean surgical procedure surrounded by prenatal care must still be called conservative. The use of anesthetics and other remedies for the relief of pain must be classified as conservative. The introduction of cutting of the perineum and the introduction of forceps in the interest of the baby, the use of the bag to introduce labor, the constant resort to versions and extraction, the very frequent resort to Caesarean sections—might all be looked upon with suspicion as smacking of the radical.

All of these procedures have their place. We are willing to grant that fact without argument.

I venture the assertion that any of these procedures that are used as routine—without a clear indication in each and every case—is radical and dangerous. The danger lies unfortunately in adding opportunities for infection and in causing increased mortality as well as morbidity to babies and mothers.

We doctors are great faddists. The pendulum swings to the side of conservatism and then back to radicalism. The truth of the matter is that the wise doctor will take a middle ground and will take for his own use those procedures that are proven by statistics to be the best. He will finally select the procedures that will give him results and that he can do the best.

We, at Stuart Circle, regard ourselves as conservatives. We use gas and oxygen anesthesia with a free hand, particularly during the passage of the head through the cervix and over the perineum. The purpose is to shorten the second stage of labor and to keep the cervix from being torn.

Of the procedures that might be classified as radical because used rather constantly are episiotomies, particularly in the primiparae. The cutting of the perinuem has prevented many a still birth. Episiotomy has shortened many a second stage and has given unrelaxed perinei to many women who would later have come to repair. We use forceps in the interest of the mother but particularly in the interest of the baby. We like Caesarean sections better than craniotomies. We bag our placenta previas and let the head follow the bag out instead of verting. We section our central placenta previas. We treat toxemias conservatively and do not start them into labor until they have improved or until they have shown that they are going from bad to worse. In our toxic cases we never allow them to go on to convulsions because we put them into labor with a bag. Once in a great while a case does slip by our guard and has a convulsion. We feel disgraced when this happens.

Among my own private cases but three have had convulsions. One of them had a blood

*Read before the annual meeting of the Medical Society of Virginia at Charlottesville, Va., October 22-24, 1929.

pressure reading and urinalysis made within twenty-four hours of the convulsion. Both urinalysis and blood pressure were normal.

We use forceps with a much freer hand than version, probably because we are better at forceps. I believe in the long run forceps do less damage to babies and mothers than versions. In doing forceps, we are carrying out nature's plan in that we are insisting upon a vertex delivery.

Craniotomies are almost without exception the end results of someone's error. We do many more craniotomies in the public clinic than in Stuart Circle.

While there are a great many factors that determine the trend of obstetrical opinion and practice, either in the direction of radicalism or conservatism, certainly the end results are important factors.

At Stuart Circle Hospital from 1920 until September 1, 1929, we delivered 2,473 women. Of that number, 2,036 are classified as normal, while 437 might be called abnormal. It might be more instructive to reduce the various factors studied from these groups to percentages. There were 82.3 per cent normal, and 17.7 abnormal. Bags were used 6.9 times in every hundred; high forceps 1.6 times; other forceps 11.1; versions .92; craniotomy .12; abdominal section 3.3.

There were 2.9 breech cases, premature babies 6.7. Probably the most interesting part of the statistics have to do with still-births and maternal deaths. There were 56 still-births, making a per cent of 2.26, while the maternal deaths were only 11, with a per cent of .445. Over a period of nine years, beginning in 1920 and ending with 1928, the State of Virginia had a still-birth incidence of 4.24, and the maternal death rate was .722 on the average.

Pasadena, Calif., in 1924, with 1,414 births, gave a still-birth record of 3 per cent, an abdominal section rate of 3.6, and a maternal death rate of .43. Dr. I. W. Potter reported, in 1920, upon 1,113 women personally delivered by him, and, of that number, 920 were delivered by version and extraction with an incidence of still-births of 3.6 per cent. The per cent of abdominal sections was 7.1, with .18 vaginal sections to be added.

I think that we are justified by our statistics in the continuation of the practice of conservative obstetrics.

STATISTICS IN OBSTETRICS FROM STUART CIRCLE HOSPITAL.

	Total Deliveries	Normal	Abnormal	Bags	High For.	Other For.	Breech	Version
1920	123	112	11	7	1	9	3	1
1921	171	162	9	17	5	18	1	0
1922	200	150	50	10	6	24	1	4
1923	224	145	79	9	7	27	6	3
1924	261	191	70	13	12	22	10	0
1925	241	216	25	11	4	18	14	2
1926	301	247	54	19	1	30	8	5
1927	307	276	31	30	2	5	12	6
1928	325	260	65	22	1	41	12	0
1929 to Sept.	320	277	43	19	2	42	7	1
Total	2473	2036	437	157	41	276	74	22
Per cent		82.3	17.7	6.9	1.6	11.1	2.9	.92

STATE OF VIRGINIA

	Craniotomy	Caesarean Section	Premature Babies	Still Births	Maternal Deaths	Still Births	Maternal Deaths
1920	0	1	5	0	0	4.34	.85
1921	0	9	11	8	0	4.34	.69
1922	0	4	4	6	1	4.23	.71
1923	1	11	18	6	0	4.23	.73
1924	1	10	16	8	2	4.33	.64
1925	0	9	14	5	1	4.05	.69
1926	1	10	33	3	2	4.24	.80
1927	0	9	34	12	2	4.18	.61
1928	0	11	18	15	1	4.35	.78
1929 to Sept.	0	9	13	3	2		
Total	3	83	166	56	11		
Per cent	.12	3.3	6.7	2.26	.445	4.34	.722

2473 CASES DELIVERED FROM JANUARY, 1920, TO SEPTEMBER, 1929.

	Still Births	
Normal deliveries	4	
Normal deliveries induced with Voorhees bag	1	
		5
Premature	11	
Premature and pre-eclamptic	1	
Premature and nephritic with abrupto placentae	1	
Premature, one kidney and twins, No. 2 breech	1	
Premature and breech	2	
Premature and high forceps	1	
		17
High forceps	4	
High forceps with twins	1	
Midstrait forceps	3	
Midstrait forceps with nephritis, convulsions, pyelitis	1	
Low forceps	4	
Low forceps with prolapsed cord	1	
		14

Breech	6	
Breech with dry labor	1	
Version and extraction	1	
Version and extraction with twins	1	
Version and extraction with eclampsia	1	
	—	10
Caesarean section with eclampsia	1	
Craniotomy	2	
Craniotomy of after-coming head	1	
	—	4
Pre-eclampsia with prolonged labor	2	
Eclampsia with convulsions	1	
Nephritis with convulsions	1	
	—	4
Twin monsters	2	
	—	2
Total of still-born from 2473 cases at Stuart Circle Hospital		56
Total of babies that died within the first ten days after delivery		40
Per cent of babies still-born and dead in first ten days		3.87

STATISTICS OF THE OUT-PATIENT CLINIC OF MEDICAL COLLEGE OF VIRGINIA FROM 1910 TO 1920.

Total number of cases delivered	2,341
Maternal deaths	.81
Still-born	10.6
Babies that died in the first ten days after delivery	3.1
Total dead babies	13.7

MATERNAL DEATHS.

1922

No. 1280—Prolonged labor. Renal insufficiency. Caesarean section. Lived 7 days.

1924

No. 1601—Toxemia of pregnancy, late. Generally contracted funnel pelvis, border-line. Caesarean section. Lived 11 days.

No. 1614—Acute fulminating toxemia of pregnancy, late. Stroganoff's method and phlebotomy. Lived 2 days.

1925

No. 2500—Carcinoma of ovary with metastasis to lungs and liver. Caesarean section. Resection of the tubes. Lived 23 days.

1926

No. 1716—Eclampsia. Bilateral lobar pneumonia. Low forceps, episiotomy. Lived 4 days.

No. 2222—Eclampsia. Broncho-pneumonia. Induced labor. Still-born. Lived 12 days.

1927

No. 522—Eclampsia. Induced labor. Midstrait forceps. Still-born. Lived 1 day.

No. 2672—Generally contracted pelvis. In labor thirty-six hours before entering the hospital. Caesarian section. Peritonitis. Lived 6 days.

1928

No. 1193—Pre-eclampsia. Pulmonary embolus Induced. Midstrait forceps. Died on the table.

1929

No. 211—Normal labor. Infected episiotomy. Lived 14 days.

No. 1793—Decompensated heart. Pulmonary edema. Low forceps. Still-born. Lived 10 hours.

26 *North Laurel Street.*

DISCUSSION OF PAPERS BY DRS. ALLEN AND BAUGHMAN.

DR. M. P. RUCKER, Richmond: I am glad Dr. Baughman defined conservative obstetrics as he did. When he called me up some time ago and asked me to discuss his paper, I was afraid he was going to make the conservative obstetrician opposed to any change, an old time obstetrician who practiced the kind of obstetrics that is so graphically described by Dickens, in Dombey and Son, and Oliver Twist, and that I would have to classify myself as a radical. As I understand Dr. Baughman's definition, a conservative obstetrician is one who studies his cases carefully and chooses the method of handling each case that will give the best results to mother and child. The method varies naturally with the cases and with the facilities at hand.

In order to see how well I have qualified under Dr. Baughman's definition, I have gone over my last 1,000 cases. These patients have been delivered since September 23, 1926. With few exceptions, they have been delivered in a hospital. The average age was 27.1 years. There were three 14 years of age and one 46. Two hundred and sixty-six were 31 years or over and of these thirty-seven were over 40. Four hundred and ninety-eight were primiparae. Thirty-seven per cent of the series came from a distance. This is significant, as most of these were sent on account of some complication or the fear of some complication. For instance, there were 20 placenta previas, and 120 others were toxic. Eighty-two of the 502 multiparae gave the history of having lost a baby at a previous delivery elsewhere. Labor was induced 616 times, with Voorhees' bags. One hundred and fifty-two delivered spontaneously, while ninety-five were delivered with low forceps, and 276 with mid forceps. There were 427 versions and extractions (Potter's technic), twelve Braxton Hicks' versions, forty breech extractions, and four Cesarean sections.

The maternal mortality was 0.3 per cent and the maternal morbidity, according to the American Gynecological Society's standard, was 2 3 per cent. The three deaths were as follows: Case No. 4697, a multipara, was bagged at term and delivered by version. She was sent home in an ambulance the following day in the care of an *experienced* practical nurse, who, on her own initiative, gave the patient a douche. She used the family douche bag and tip without any sterilization whatever. The patient had a chill on the sixth day, and on the seventh day post-partum her temperature was 105 and she was covered with a rash, like scarlet fever. Hemolytic streptococci were recovered from her blood. The patient developed an arthritis before she died on the 12th day. The second death, No. 7024, was from eclampsia. The patient was brought to the hospital in an automobile from a point fifty miles distant. She had several convulsions at her home and several more in the automobile. None of the usual remedies (morphine, magnesium, sulphate intravenously, sodium bromide, chloral, intravenous glucose, etc.), had any effect upon the convulsions. She was delivered under spinal anesthesia, and it was noted that the spinal fluid was distinctly cloudy. The convulsions continued after the delivery and she died in a convulsion a few hours later. The third case, No. 6166, had a pulmonary embolism shortly after an easy version and extraction under ether anesthesia.

Statistics dealing with neonatal deaths and still-births are very confusing. In Williams' classical report of the first 10,000 cases in his service at Johns Hopkins, there were 760 new-born deaths. Over 29 per cent of these were due to syphilis. With the advent of the Wassermann and intensive treatment of the expectant mother, syphilis practically disappeared from his clinic, but his neonatal still-birth death rate was not greatly lowered. Beck, in

1922, reported a combined neonatal death and still-birth rate of 3 per cent in over 1,000 cases at the Long Island College Hospital. Mathews, several years later, reported a still-birth rate alone of 4.4 per cent from the same clinic. Shortly after Beck's report, I was visiting his clinic, and, in talking about his excellent results, I told him that my toxic cases alone ran my rate up to his total mortality. His reply was that such cases were not included in his report. It was very evident, therefore, in comparing new-born infant mortality, that one should know the kind of cases one is dealing with. In my series syphilis played very little part. Six mothers had a 4 plus blood Wassermann, and four had a 2 plus reaction. In five additional cases the history of syphilis in the husband was obtained. One of the 2 plus reactors had an apparently normal baby, 51 cm. long, that died within 2 weeks, and one of the cases in which the history of syphilis in the husband was obtained had a boy 53 cm. long that died shortly after birth. One syphilitic mother had a macerated fetus 35 cm. long. It is interesting to note that this mother insisted on having her family physician give her homeopathic treatment, as he had been treating her husband in that way for some time.

On the other hand, toxemia of the mother and placenta previa played a big part. My gross neonatal death and still-birth rate was 8.8 per cent. If the 140 patients who were either toxic or who had placenta previa be deducted, there is left 860 who had 866 infants, there being six sets of twins. Among these 866 infants there were fifty still-births or neonatal deaths, or a new-born death rate of 5.6 per cent.

It would seem, therefore, from a comparison of the statistics that Dr. Baughman has presented and my own, that I am somewhat less conservative when measured by infant mortality, and somewhat more conservative when measured by material mortality and morbidity.

DR. G. B. BYRD, Norfolk: I just simply want to take up Dr. Allen's paper. I think, to begin with, any woman who is pregnant, wants her baby, so, in order to promise her or help her in any way to have that baby, I think you should begin early in that pregnancy to watch the mother, both as to her diet and weight, and to see if there is any chance of having a small baby, provided the measurements of the pelvis would indicate that such is necessary, beforehand. I say hope to get a small baby, because very often we try to get one by dieting and watching the woman's weight and get one twice as large as we expected. We know that babies do grow rapidly toward the last and that every day and every week they go over the term their bones calcify rapidly and that every day there is less possibility of molding the head.

As to the question of induced labor, several years ago I induced a good many. Fortunately, most of them came out all right, but you do run into certain snags when you go into it with the idea of getting a small baby. First of all, you get a premature baby, and a premature baby has not the chance that a full-term baby has. You have two things to consider: First, there is a little more danger of infecting that woman in going through the vaginal canal and dilating the cervix or introducing a bag; another thing, there is always a certain risk of causing a prolapse.

The next thing I have to bring up may sound radical, yet I think it is in a way conservative. I think in a border-line case, where you have a case that you think is going to have a difficult labor, I believe that you will stand a very much better show of having a normal child and I don't believe the mother will be injured any more by a clean Cesarean section than by going through in the vaginal way.

I enjoyed the statistics very much, and I think Dr. Baughman is entirely right; it is not a question of what you do, but the results you get, of the method that works best in your hands and from which you get not only the fewest maternal deaths but the least mortality.

DR. C. J. ANDREWS, Norfolk: I have no doubt at all that Dr. Allen himself understands and has worked out a definite plan which he finds satisfactory and from which he gets good results. We have been through that stage of inducing labor for supposed over-time. Now, in the first place, if the baby is not large, there is no reason to do it. About a year ago I had a woman sent in to our clinic by one of the local practitioners, a very close friend of mine, incidentally. She was supposed to be two weeks over-time, and he had given her castor oil, and she had started up and quit. Three weeks later she was given castor oil, again was supposed to be in labor, and quit again. The house doctor asked me why I did not go ahead and deliver her, if I did not fear that I would get into serious trouble. But her measurements showed that the baby was not large, and I told him that unless she got in serious trouble I was going to give her a year. That was in November. I heard nothing more about her until in January I happened to see my friend and asked about her. He told me that he had happened to be across the street from her home when he was called to her because labor had started, and the baby was born before he got there. The baby weighed eight pounds. I can not be too emphatic about that thing. Dr. Byrd and I have both come to about the same conclusion. I tell them when they get too anxious about the baby, to wait a while and the woman will probably have it herself.

I am enormously impressed with Dr. Baughman's report. I do feel that deliberately inducing labor and then doing a version on the woman is wrong. I talked to Dr. Rucker about version and asked him why he did it. He said to save them time and save them pain in labor. I can not feel that, if it ever comes to a method of selection, version is the method of choice. I have seen Dr. Rucker do it, and he does it very skilfully, but I believe other methods are better.

DR. BAUGHMAN, closing the discussion: I have great faith in two other things; one is the McDowell method of measurement, and the second thing is this, which I commend likewise to your attention—X-ray pictures of the woman about the time that she is supposed to be full term. All I expect to get from the X-ray is the boning of the baby's head and the general boning of the baby.

There is not a man in here who has not real convictions about this thing, and I am sorry we have not had more discussion.

Answering the question that was asked about the septic woman reported in my paper, I think that was the woman that died of peritonitis after Cesarean section, the one that was in labor for thirty-six hours before entering the hospital. This was Dr. Gray's case. He told me about it, and I knew about it at the time, because we discussed it. The woman was in town and was sent to Dr. Gray because her doctor was uncertain. Dr. Gray examined her and told the woman, her husband, and the doctor, that there was not one chance in a hundred that she would deliver the baby. She had a big baby at that time, and it was about three weeks

to term. It was not the doctor's fault. As soon as she went into labor he went to see her, and they had a long and acrimonious discussion as to what should happen. He tried to get her to go to the hospital. He did not examine her at all. He said one time he was going to quit the case, but he hung around and hung around until she finally consented to go to the hospital, when she was operated on immediately.

DR. ALLEN, closing the discussion: I think, as Dr. Baughman said just now, every man in here is interested in this subject. It is a very, very practical subject, as I mentioned when I started talking about it.

Dr. Byrd mentioned the diet and other efforts at getting small babies. I am going to pass that by with one or two sentences and say I have lost all interest in diet as a means of getting a small baby. I am not interested in what diet the woman has and am not interested in the size of the baby except that it shall not get too big for the woman.

I did not mention premature babies. I tried to refer only to the induction of mature labor and not premature labor. I do induce premature labor and have the courage of my convictions to stand up here and say so, and, if I had time, I could give you a great number of instances in which I have gotten brilliant results. I am talking today about the induction of mature labor when the woman is at term. I do not want her to go over term; that is what I am concerned with.

By the method that I use in inducing labor I believe there is practically no danger of prolapse of the cord. My address made no reference to contracted pelves; I am not talking about that at all, but about ordinary pelves with over-sized babies with hard heads.

RELATIONSHIP OF THE VARIOUS SPECIALTIES TO GENERAL MEDICINE—PRESIDENTIAL ADDRESS.*

By A. A. HOUSER, M. D., Richmond, Va.

I am happy to have a part in the arrangement of this program, a symposium on medicine.

Medical science has developed so many different ways of rendering service to man that no single physician can become efficient in every branch of practice. It is difficult for a worker in one branch of medicine to have a comprehensive picture of just how much his coworkers in other branches of medicine could do to assist in the improvement of the health, comfort or usefulness of his patients.

It is so easy for the physician to let his success cases interfere with his mental growth that he fails to recognize his limitations. Every branch of medicine renders service to some patients who are so grateful that it is easy to lose sight of the ones who were not helped; many in this latter class carry a grudge against the profession as a whole.

There is no environment that lends more inspiration to a friendly discussion of our endeavors to serve the public than St. Elizabeth's. Dr. Horsley has made the impression on every interne's mind that truth was the outstanding virtue of every physician. There is not an ex-interne of St. Elizabeth's but who has heard Dr. Horsley make frank statements of error to his patients.

In the memory of even the young man in medicine there was no very definite line to distinguish the specialist from the general practitioner. The surgeon was considered in most communities the highest diagnostic authority. The obstetrician was seldom regarded as a specialist, and most other specialists did not confine themselves to a narrow line of work. In the past few years, even the master in surgery will not subject his patient to an operation without having him surveyed by a clinician.

It is the tendency of the specialist of today not to treat ailments that do not come directly under his line of work. With the increasing number of specialists the patient has tended to become more confused, and at times receives inadequate service by not having the guiding and educating help of a general practitioner. Every patient should have the services of what is probably the most useful of all specialists, the general practitioner, who should be a specialist in giving wise counsel. He may not know as much about the technic of treating pathology that primarily concerns the other specialists, but he knows the patient vastly better. It is only with his help that the patient has much opportunity of having his educational growth synchronized with physical improvement. The specialist who is a master in some narrow line does not have the same opportunity to grow in human understanding. Medical knowledge has grown so fast that it is impossible for any physician to treat every ailment of his patient advantageously. It is as unworthy of the physician to deny his patient the help that the specialist can give, as to treat him wrong willfully. With this new order of practice in which more than one physician has to do with the patient's treatment, there is imposed a new obligation upon professional relationship.

There exists in the minds of many physicians a feeling of duty to protect the procedure

*Delivered before the sixth annual meeting of the Ex-Interns' Association of St. Elizabeth's Hospital, Richmond, Va., October 1, 1929.

XUM

of his fellow consultant, even to the harm of the patient, an attitude that would leave the impression that the patient was the accessory of the physician, rather than the true relationship in which the physician is the accessory of the patient.

Consultations are often unprofitable to the patients on account of there not being an environment that each consultant can give a free expression of his opinion to the patient. The consultation is of primary concern to the patient who pays the fees, and is entitled to the opinion of all of his medical attendants. The moral courage to give expression of frank opinion in every consultation is a great force to elevate the standing of professional thought.

There is being developed rapidly in the lay-mind a better perspective to differentiate between the efficient and the non-efficient physician, while personality has in the past been the largest factor in the determination of the physician's success; this is not as unfair as it may seem on casual judgment. Medical practice is concerned with two things—scientific medical knowledge and understanding of the individual who is to receive benefit from it. The most scientific physicians often do not have the best understanding of the individual who is to receive the potential benefits of scientific medicine. Personality is not an abstract endowment with which some men are born, but a quality that is achieved directly in proportion to the individual's ability to understand his environment. In many cases it is an essential qualification for the physician to have in order to elicit the cooperation of the patient, an essential condition for satisfactory treatment.

Personality in medicine is secondary to scientific medical training, but is very essential to its successful application; there are specialties of medicine that can get along better with less personality than the surgeon, internist or general practitioner.

There is often a feeling of tension harbored against the physician in whom the personality achievement dominates the scientific achievement, by the physician in whom the scientific achievement has smothered the personality development. If the scientific physician could feel entirely dominated by his obligations to his patients, and not be intimidated by the fear of continued support of the physician of more personality, and likewise more patients, there would be a growth by both,—the man with personality would increase his deference for science, and the ultra-scientific would get a clearer vision of the activating force of personality that makes scientific reactions work more smoothly.

There is no greater inspiration that we can get out of our return to St. Elizabeth's each year than to increase our desire and ability to be more perfect exponents of truth.

I want to open this symposium on medical practice by discussing one of the growing medical specialties—the periodic health examination. This is a field that offers the greatest utilitarian value of any of the specialties of medicine. It is conservative to prophesy that the average length of life could be doubled, if everyone had access to an efficient Health Survey at regular intervals.

The medical setting for a physical survey that has health development as its main object, has many differences from the survey made to diagnose symptom-giving pathology. There is the same need for an understanding of the methods of eliciting pathology, and a greater need to have a vivid conception of the individual entirely free from pathology. The common medical conception is to divide people into two classes, the sick and the well. The conception of the health examiner is one of varying degrees of health potentialities. It is doubtful if any one is well, if the conception of health is the individual's height of physical and mental perfection. I have not yet examined a patient who very closely approached this standard of health. The periodic examination falls far short of its possibilities if the examiner concerns himself only with the evidences of well-defined pathology. There are always evidences that are very definite in the pre-pathological state, suggesting a trend to the development of pathology. These phenomena are of primary concern to the examination that has for its object health development.

One of the greatest handicaps to a proper diagnostic conclusion is the premature opinion, which often has the mechanism of a guess from some suggestion early in the contacts, and all of the diagnostic effort is expended to prove the guess. The health examination must be done with the examiner maintaining at all times a strictly judicial attitude, collecting evidence with a resilient mentality until it has all been obtained,—then the examiner

XUM

is in a position to crystallize a diagnostic conclusion of greatest value. It is more essential that the health examination be conducted with a strict and elaborate routine, than the examination of the patient with evident pathology; the sick often have symptoms to suggest necessary investigation, but the health examination has none of these directing signs.

It is more essenital that the health examination be conducted under the close supervision of an individual examiner, than the examination of the sick, as the emotional mechanism has to be studied as closely as the physical.

It is a tradition among physicians that the history is the most important factor leading to diagnosis. The health examiner should exclude all history except the statement of the patient of his conception of how he feels in comparison to his conception of how he would like to feel. This statement is not usually accurate, and need not be, but it should be an honest effort of the patient to portray the kind of reaction his mind gets from his body. All other history should be kept out of the picture until the examination is concluded. It may then be added as a supplement. It should not be considered until a thorough digest of all other data of the physical examination has been made.

The routine procedure of the health examination should take nothing for granted, regardless of how well the examined may look and feel. As a principle the more elaborate the routine the better. There is opportunity for many procedures in laboratory diagnosis to render a greater service in the health examination than in the diagnosis of the sick.

It would be unduly tiring to spend time discussing the value of the more common routine applied to the health examination, it being a parallel of a well ordered physical examination. I am going to state only a few procedures that are often under-estimated as to value. There is a close relationship between a good chewing surface and a clean mouth—to health and longevity. This is one of the most essential corrective opportunities of the health examination. The ophthalmoscopic examination is a means of getting the earlier view of vascular change. This information is diagnostic of pathological tendencies as well as giving suggestions of the habits of the patient.

The prostatic examination may reveal prostatic inflammation that can be easily corrected, that would have given serious trouble later in life. The routine blood sugar determination will reveal many pre-diabetics, that can usually be handled with little difficulty when diagnosed at this early period of development. The Grie's test is a simple method to charting quiescent pyelitis that is probably one hundred times more prevalent than is commonly thought.

The health examiner must be concerned primarily with investigation on the part of the examiner and not with the help of the patient through question asking. Information gotten from the patient is more apt to be wrong than right, regardless of how intelligent he may be. The health examiner must learn that every living thing portrays in its being at all times the kind of life it leads, both mental and physical. In the physical examination he has had opportunity to acquaint himself with the conditions that exist, and the habits of life, both physical and mental, that tend to divert his patient's health potentialities, with very little assistance from the patient.

The time necessary to complete a health examination is different in different individuals, but no examination should be completed in a single conference.

During the process of the physical examination there should be developed a democratic relationship between the patient and doctor, though the conversation should not concern in a definite way the examination at hand. Any health examiner who discusses the examination as it progresses adds greatly to his opportunity of not successfully giving an accurate picture to the patient of the relative importance of his existing pathology and pathological trends.

The most important part of the health examination is the educational conference that should follow the examination. With persons of a nervous temperament, it is sometimes profitable to make a statement before the examination is completed, stating in a general way their condition, allaying some special fear of disease which they may have been harboring, and which usually does not exist. It is well to be always careful to emphasize the fact to the patient, that this is a preliminary statement that is honest but the evidence is not all in. The examiner must be in a position to disregard his preliminary statement in his final conference with the patient.

XUM

The value of the health examination to the patient is dependent upon two things, namely, the ability of the examiner to ascertain the physical and mental potentiality of the patient and to transmit the principle of this information in practical form to him that he may make intelligent health growth.

The health examiner must regard himself primarily as a teacher. The predominant factor in health realization for the individual is health understanding. The great amount of health information taught through the public press is a help in this education conference, mainly through increasing the patient's receptivity to health reforms. No man can use to great advantage this general health teaching without an occasional health survey and specific training as to how scientific medicine is of service in his individual case.

The final conference is the vital part of the health examination—this should be an exposition of the patient as the physician sees him, kindly but truthfully stated.

The physician should have made his examination carefully enough so that he is willing to risk his professional standing with the patient in describing all existing pathology and pathological trends. He should also take pains to convince the patient that this is all he knows about his deviation from normal. It is a well-established conception in the minds of many people that the doctor never tells the patient all he knows. The greatest service to medical practice and health of the community is to convince the public that physicians as a rule tell the whole truth.

After outlining the physical weaknesses of the patient, he must know the forces and living error that developed them and the habits he now has that interfere with their recovery. He must have a picture of his bad physical habits; such as improper food as well as bad habits of work and play, and also be introduced to his emotional reactions that he often fails to regard as a health influence.

The health examination has a visible technique likened to the examination conducted for the purpose of explaining symptom giving pathology. It must also have an invisible technique associated with the visible, that the examiner can sense the emotional mechanism and its associated pathological tendencies. Every step in the visible technique has its associated invisible potentialities to reveal some further attribute of the patient's emotional make-up. The one step in the visible technique that predominates in contributing to the invisible art of emotional understanding is the blood pressure readings. This is a subject sufficient for a thesis in itself. The sphygmomanometer has a greater potentiality for service in revealing emotional tension that will produce cardiovascular pathology, than it has in giving information of existing cardiovascular pathology.

Every physician is fully conversant with the importance of early diagnosis of many diseases, especially cancer and tuberculosis. There is a pre-pathologic setting that usually makes these dreaded pathological conditions possible. Had they been sensed in the health examination and corrected, the chances are the conditions would not have developed. This is also true with most of the infirmities of old age.

The greatest hindrance to the more rapid growth of this specialty is its freedom from the spectacular. The patient does not have a vivid conversational picture of the tragedy he has been prevented from having. The treatment in the main is educational, diverting him from the tense emotional being to a being with a greater reverence for the privilege of life, developing zeal to meet the normal requirements of the body that he may have the maximum energy to market in the performance of service.

There can be nothing but reverence in the mind of any man who reviews the history of medicine for the past 100 years. But medicine up to the present time has been mainly concerned in man's visible pathology.

Machine and Man.

The factory engine wouldn't start,
And so they took the thing apart
To search for flaws.
They took it down from top to base;
They looked at flange and gear and case
To find the cause.
"Something is broken," they declared,
"And what it is must be repaired."

Near-by a drowsy workman stood,
And some one muttered: "He's no good!
Just let him go!"
They didn't take this man apart,
Or think to search his mind and heart,
The cause to know.
Nobody thought to ask him why
There was no luster in his eye.

But had they looked into the gloom
Of what he called a sitting-room,
Or searched his life;

They would have found a woman frail,
Tubercular, and drawn and pale,
Who was his wife.
And then they might have understood
Why that man seemed to be no good.

When engines in a factory stop
We search the things from base to top;
But when man breaks,
'Tis very seldom that we pause
To search his life to find the cause
Of his mistakes.
Yet we might mend him could we find
The thing that's preying on his mind.

Medicine of the future must develop the same interest in man that he now has in his pathology. The destiny of man can only be wisely directed by the physician. Health is only stable when there is a perfect synchronization between man and God. No man is better qualified than the physician to direct man to God, by teaching him how to render the greatest service with his life's potentiality. Aptly was Jesus styled the Great Physician.

THE RELATIONSHIP OF PATHOLOGY TO GENERAL MEDICINE AND DIAGNOSIS.*

By WILLARD G. RAINEY, M. D., Princeton, N. J.

Doctor Horsley[1] has said that the student who feels that "his study of anatomy, embryology, chemistry, physiology and pathology should cease after the first two years of his course and should be remembered only for purposes of passing his examinations can never attain a full grasp of scientific medicine." As to pathology Karsner[2] expressed a similar thought somewhat differently: "If the position of pathology in the medical curriculum today were to be described diagrammatically it might be stated that it occupies the neck of an hour-glass. The students receive in their earlier years their conception of the fundamental sciences and as the sand concentrates toward the neck of an hour-glass so are the methods of these fundamental sciences concentrated in the study of pathology, the student later branching out in the clinical divisions to apply to the diagnosis of disease the methods and conceptions acquired in his preceding work. . . . He is then prepared to enter on the study of those changes from the normal which constitute the natural history of disease."

Pathology, like physiology, is one of the cornerstones in the foundations of medicine. Indeed modern pathology is one of the most important of the fundamental sciences to the practitioner, for its scope embraces not only morbid anatomy but also bacteriology, parasitology, and immunology, and the pathologist of today frequently finds his problems carrying him far into the field of pathological physiology.

It has long been true that outstanding clinicians have found a considerable service in pathology one of the best preparations for a brilliant clinical career. Osler, perhaps, is one of the most prominent examples in that field limited to medicine, though the list might well be extended to include other notable names not only in medicine but in surgery as well.

It would be difficult to make too strong a plea for the routine autopsy. "Only the pathologist realizes how many patients with hysteria have brain tumors; in how many heart cases there are no valvular lesions but nephritis; that 10 per cent of all old persons die with unsuspected cancer" (Wood).[3] Unfortunately, a very large number of autopsies performed in the United States are upon cases of obscure nature, or at least of doubtful diagnosis, and it is not easy, therefore, to draw altogether accurate conclusions in a statistical study of autopsy findings as to the percentage of error made in clinical diagnosis. Cabot's[4] study of the clinical and autopsy diagnoses in three thousand cases aroused a great deal of discussion, and reports of similar nature have doubtless done much to stimulate accuracy in cliical diagnosis. Clinico-pathologic conferences have proved immensely valuable to both clinician and pathologist, especially where attempts have been made to correlate clinical and pathological findings. Other interesting efforts have been made to bring pathology into practical use in diagnosis. Symmers[5] has reported a method used in his teaching whereby an elective course is offered in which the student has the opportunity of bedside study with the pathologist in cases in which the diagnosis is "eventually apt to be verified or denied by such laboratory procedures as the histologic examination of tissue removed by biopsy, operation or autopsy or by chemical, bacteriologic, serologic or other laboratory methods fashioned to supplement clinical observation." Such methods are giving physicians today opportunity to use pathology in

*Delivered before the sixth annual meeting of the Ex-Interns' Association of St. Elizabeth's Hospital, Richmond, Va., October 1, 1929.

diagnosis to a most practical advantage, or, as Wood[3] has said to "know and use it to temper (their) diagnostic and therapeutic enthusiasms."

It has not been the purpose of this paper to classify the various detailed ways in which pathology is of practical value in diagnosis, nor has it been intended to extol its virtues to the exclusion of other fundamental sciences and highly important clinical methods, but rather to emphasize the value of the correlation of clinical and pathological findings in increasing diagnostic accuracy.

REFERENCES.

1. Horsley, J. Shelton: Research and Medical Progress, *Southern Med. Journal*, XXI (January), 1928.
2. Karsner, H. T.: Teaching the Pathology of Function, *J. A. M. A.*, 75:361, 1920.
3. Wood, Francis Carter: Relation of Pathology to Practice, *J. A. M. A.*, 73:569, 1919.
4. Cabot, R. C.: Diagnostic Pitfalls Identified During a Study of Three Thousand Autopsies, *J. A. M. A.*, 59:2295, 1912.
5. Symmers, Douglas: A Method of Teaching Pathology In Its Relation to Clinical Medicine, *J. A. M. A.*, 89:639, 1927.

RELATIONSHIP OF GENERAL SURGERY TO MEDICINE.*

By JOHN S. HORSLEY, JR., M. D., Richmond, Va.
From the Department of Surgery of St. Elizabeth's Hospital.

While surgery has been defined as the mechanical part of medicine, this statement today is far from the whole truth. Surgery is a science within itself. It is also a constant guide and aid in all of the fields of medicine. The various specialties and branches of medicine require the same fundamental training, and necessarily these specialties must be closely allied. The difference between a physician and a surgeon is only a matter of degree; and only in the dosage, as it were, in which they administer operative therapy are physician and surgeon apart. It is highly important for one who is disinclined to operate in large doses to have just as thorough an understanding of the limitations and possibilities of major surgical procedures as the surgeon possesses; for a knowledge of surgery does not necessarily entail its practice (Cushing).

The surgeon, after all, is only a specialist in manipulative medicine, or as Cushing has so well put it "an operative physician." Surgery as an integral part of medicine has furnished and continues to furnish easy material for the critic, the dramatist, the cynic, and the cartoonist to exercise their talents at the expense of the surgeon. There is nothing easier than to sneer or rail at surgery by those who are not in need of it. But in the presence of the cynical and grossly material concept of the surgeon's role in the social fabric, it is only fair that something should be said to prove the baseness of the charge that he is mercenary, soulless, indifferent to the fate of his fellows, greedy for gold, and thirsty for publicity and notoriety (Matas). For the existence of this opinion, the quack and the imposter are largely responsible. In his presidential address before the members of the Mississippi State Medical Association, Matas says that we must recognize the fact that we are not alone in being cursed with quacks for they are found in all occupations. "The quack is a loud-mouth pretender, a person who seeks to gain confidence by unworthy methods or an individual who claims to have a specific for various disorders of manners, morals, finance, and politics. There is a quack in statesmanship who would reform every abuse by the iron application of a favorite formula; the quack in law who stimulates litigation and conducts legal procedures with no regard whatever for the interest of the community; and the quack in religion, who claims to have personal influence with the Creator, invariably speaks as a self-constituted oracle of the Almighty and, to quote a picturesque phrase of Dr. Chalmers Da Costa, 'would take us to heaven in the private parlor car of a lightning express.'"

Much of the disrepute that has come to surgery, however, has not come through the ordinary coarse, ignorant quack who advertises, but from those who are regarded as regular practitioners, the type that Matas calls "wolves in sheep's clothes." "These are the men who, knowing better, see an operation in any and every complaint made by the unfortunate victims of their cupidity and soullessness. They are the men who resort to all sorts of subterfuge to coax their patients to the operating table. They are the men who see in every cramp, an appendix; in every belch, a gall-stone; in every heartburn, gastric or duodenal ulcer; in every uterus, a cancer or a fibroid; (in every tonsil, a tonsillitis); in the abdomen of every neurasthenic young

*Read before the sixth annual meeting of the Ex-Interns' Association of St. Elizabeth's Hospital, Richmond, Va., October 1, 1929.

woman, a diseased ovary, an infected tube, an extra-uterine pregnancy; in every neurotic woman's abdomen, a floating kidney or a prolapsed or displaced organ, that nothing short of an operation, a laparotomy, can cure or relieve,—provided the patient can pay the necessary fee. It is wonderful how sometimes the urgency or perils of a patient's pathology shrivel into a negligible quantity when it is discovered that the pocketbook is empty and that there are no stakes to rake off from the game."

As rational therapy can be established only on a correct diagnosis, such must be regarded as a factor of fundamental importance. The same clinical application is demanded of the surgeon, the internist, the general practitioner, and the specialist, all of whom must be diagnosticians in order to be successful physicians. The public has come to recognize the value of careful examination and study. There is a growing tendency among them to seek advice of their own free-will from a specialist or a diagnostic clinic. It would be better if they would consult their own physician who in turn should either be trained and equipped to examine the patient himself or personally refer him for diagnosis. In this way the physician retains the confidence and goodwill of his patient and continues with the treatment.

As Beck states, "Unfortunately, experience shows that physicians who lack the necessary knowledge and training often fail to recognize the advantages of a thorough clinical study, whereas those physicians who possess a wider knowledge of medicine and considerable diagnostic acumen insist on further study. There are innumerable signs and symptoms which the family physician can properly interpret and diagnose if he is in the habit of considering the environment of his patients. Then again, there are other signs and symptoms which cannot be expressed in terms of diagnosis without especial investigation. These investigations may call for blood chemistry, metabolic determination, roentgenologic studies, etc. It is as much a part of diagnosis to recognize signs and symptoms which demand a special examination, as to know the significance of a heart murmur or albumin in the urine. Whether engaged in general practice in a small, isolated community, or in some special field in a large medical center, we all possess the same opportunity for development along certain lines, especially in what may be regarded as the practice of the art of medicine."

A brief discussion of some of the indications for surgical operative therapy will follow: The indication for operation must never be based alone on laboratory findings, X-ray examinations, etc. These are of the greatest value but can be considered only as corroborative evidence. The diagnosis must be made on the complete clinical picture. The surgical problem now is not to have the patient merely survive the operation, but will he be well, symptom-free, useful to his calling and to society? There are two types of cases where the indication for operation is absolute: First, those where an immediate restoration to health may be expected. Second, those which pave the way for further and effectual treatment (Ill).

Under the first class come those cases of accidental character. Even the smallest wounds should not be neglected. Infection quickly and easily takes place and poor results may be expected if immediate attention is not given. In wounds or injuries of the abdominal contents, a great responsibility rests with the surgeon. Careful and constant observation is essential. Distention, increasing rapidity of the pulse rate, fever, etc., are definite indications for operative intervention. The element of shock and hemorrhage may or may not mask the picture. Early operations carefully performed will save lives. The later the operation after such injuries, the more serious the prognosis. Injuries of the skull must also have very careful consideration. Each case must be treated individually. It is well to remember that children often stand concussion and compression of the brain better than adults. Immediate operation is nowhere more indicated than in injuries to the trachea and in the inhalation of foreign bodies. Simple fractures when not involving the trunk are of less urgency and call for more deliberate action. Compound fractures, especially those involving the viscera, are benefited only by immediate action. Septic conditions of the eye and ear present distinct indication for immediate interference.

Among the more important conditions that call for prompt action are perforations of the intestinal, biliary, or urinary tracts. In acute appendicitis, it is wise for the surgeon not

XUM

to tarry. Once a definite diagnosis of acute appendicitis is made, the surgeon will never regret an early operation. Those of us who have seen many such cases treated along the so-called conservative lines by freezing, etc., recall to mind lives that have been needlessly lost. Intussusception in children, intestinal obstruction, and strangulated hernia are some of the other diseases where the indication for immediate operation is restricted only by the possibility of an incorrect diagnosis. Deliberate consideration and careful study should precede all stomach, intestinal, and intra-pelvic operations. The factor of correct diagnosis is extremely important. The determining of whether the so-called medical treatment should be used first or entirely is another factor of great importance.

The so-called precancerous lesions present definite indications for operative therapy. It is common knowledge that all malignant conditions should be operated upon early, if a cure or even a prolongation of life is to be expected. So far as we know, the only hope in the treatment of malignancy lies in its early and thorough operation.

Thus we see that the close alliance and intelligent cooperation between the physician and the surgeon are of vital importance in effecting a cure, prolonging a life, and, in short, carrying out the sole purpose of medicine. Again, surgery is a constant guide and aid in all of the fields of medicine.

REFERENCES.

Beck, Harvey G.: Problems in Diagnosis, read before the Tri-State Medical Association of Mississippi, Arkansas and Tennessee, February 7, 1929.

Cushing, Harvey: Instruction in Operative Medicine, *The Johns Hopkins Hospital Bulletin*, Vol. XVII, No. 182, May, 1906.

Ill, Edward J.: The Indications for Surgery, *Journal Medical Society of New Jersey*, 1916.

Matas, Rudolph: The Soul of the Surgeon, *Transactions of Forty-eighth Annual Session of the Mississippi State Medical Association*, 1915.

THE RELATIONSHIP BETWEEN RADIOLOGY AND MEDICINE.*

By WRIGHT CLARKSON, M. D., Petersburg, Va.

In speaking of the value of the roentgen ray as a diagnostic agent, Bloodgood in a recent editorial makes the following statements: "X-ray has a wider application in the recognition of organic disease than any other diagnostic test" and "the public and the medical profession have failed chiefly in recognizing the protection of an X-ray study of the stomach the minute there are any warning symptoms from within the abdomen." He also states that "the majority of persons today are not content with the diagnosis of 'growing pains,' 'charlie horses,' 'bumps,' sprained ligaments, torn muscles or the most dangerous diagnosis 'rheumatism,' and that no child or adult was cured of sarcoma of bone in Johns Hopkins Clinic until 1913, while now 30 per cent are being cured due to education and X-ray."[1]

These statements, and others in modern medical literature, bring forcibly to our attention the value of roentgen diagnosis but we should not forget that they will serve only to help bring roentgenology into disrepute unless physicians realize that roentgen diagnosis is not simply a picture-making process. Many manufacturers today, led on by the lure of additional profits, are placing inadequate equipment in the hands of hundreds of physicians who are absolutely ignorant of the science of roentgenology. No human mind is capable of mastering all of the medical arts, and few, if any, of doing the best work in any two of them. There is no branch of medical science requiring more profound and prolonged study to conquer than that of radiology. It deals with every phase of scientific medicine, and without years of concentrated effort, coupled with a close cooperation with masters in the various other branches of medical science, the best results cannot be attained. The radiologist must be considered as a consultant, for in a large percentage of cases a correct diagnosis cannot be made until the clinical and roentgen findings are closely correlated in actual consultation.

Not only does the radiologist need the cooperation of the internist and surgeon but also of the pathologist, physiologist and those in all the other special branches of the medical art. Successful roentgenology means following the cases to the operating room, a constant check-up on the clinical developments and, in fatal cases, examination at post mortem.

Poor roentgen reports or the lack of regular roentgen consultation by a physician results in getting the physician in disrepute with his patients and ultimately results in professional and financial loss to him. On the other

*Read before the sixth annual meeting of the Ex-Interns' Association of St. Elizabeth's Hospital, Richmond, Va., October 1, 1929.

hand, a roentgenologist who relies only upon the shadows upon the films, disregarding the valuable aid he may receive from his consultations with the surgeon and clinician, will make many avoidable errors with resulting suffering, injury and loss of life.

Only a small percentage of our surgeons and internists know the value of good radiology because it is now generally conceded that the number of hospitals far outnumber the number of competent radiologists, and if young men are to be encouraged to spend the necessary years of preparation in the field of radiology, surgeons and internists must encourage the art by demanding the services of a competent radiologist and not of the novice, or, as in many communities, the services of lay laboratories which deprive the radiologist of so much revenue as to make the purchase of adequate equipment impossible.

The enormous amount of charity work thrown upon the roentgenologists of today through various charity clinics, etc., makes their burdens increasingly heavy, and if the income continues to decrease through the installation of roentgen equipment in the offices of physicians in private practice, it will not be long before the services of a competent roentgenologist will be available only to those in the largest medical clinics.

A lack of close cooperation between surgeons, internists, and roentgenologists can lead only to a deterioration in the science of roentgenology and, through want of adequate diagnostic and therapeutic roentgenology, to a proportionate deterioration in the whole science of medicine. Let us, therefore, think less about making a spectacular first impression upon our patients and more about our duty to our profession and to humanity, which will eventually bring far greater reward, both professional and financial.

In considering the relationship between radiology and medicine, one should not forget that most radiologists have no patients of their own. Speaking personally, I prefer to act only as an aid to the physicians who trust their patients to my care, and consider it a duty and privilege to cooperate with them to the best of my ability.

Roentgen reports should be made only to the physician and even when a positive diagnosis cannot be made by the roentgenologist his report should include all the evidence revealed by the examination, for it may give the internist the additional data necessary for a correct diagnosis.

Radiotherapy is quite efficient in epithelioma, eczema, and many other common ailments, and patients soon learn that they may be cured of these ailments by radiotherapy. Radiologists are, therefore, receiving an increasing number of calls from the laity to treat these conditions. A patient certainly has the right to choose his physician, but the family physician should also be consulted in these cases if the best results are to be obtained and if the cordial relationship between radiologist and physician, so essential to the progress of each, is to continue.

REFERENCE.

1. Bloodgood, Editorial, *Radiology*, September, 1929.

205 *South Sycamore Street.*

RELATION OF OTO-LARYNGOLOGY TO GENERAL MEDICINE.*

By M. L. BREITSTEIN, M. D., Baltimore, Md.

The specialty of oto-laryngology has long ceased to be an isolated field. It has become more and more bound up with the fundamental knowledge underlying general medicine. While it is true that a specialist is a specialist by virtue of special experience and specialized technique in the diagnosis and therapy of diseases limited to a narrow field; it is undoubtedly also true that this special knowledge is more important when it has as its basis a broader understanding of the principles and practice of medicine in general. When the findings in a special field are to be considered in relation to the general problem of the patient as a whole, then I say unhesitatingly that the evaluation of the findings of the specialist belongs to the internist, alone.

Due largely to the publications of Marriott,[1] much emphasis has been placed recently upon the relation of ear, nose, and throat infections to the more general problems of pediatrics. Upon investigation it was found that the infections of the ears, nose, and throat in children often precede nutritional or gastro-intestinal disturbances. With the onset of a slight rhino-pharyngeal infection there is often observed a repeated decline in weight and, at times, diarrhea and vomiting. In those cases in which it was possible to clear up the infection

*Presented at the sixth annual meeting of the Ex-Interns' Association of St. Elizabeth's Hospital, Richmond, Va., October 1, 1929.

XUM

by local treatment or by an incision of the drum, there occurred simultaneously, an improvement in the infant's nutritional condition and the cessation of the gastro-intestinal symptoms. Treatment of the infection in these cases exerted a far greater influence than the many changes in the character of the food. It was, in fact, found unnecessary to change the diet except in those cases in which the food was qualitatively or quantitatively insufficient.

As far back as 1684 DuVerney found at autopsy pus in the mastoid antra of infants dying from nutritional disturbances. He interpreted these findings as due to post-mortem change. The same findings in 1923, however, led to the suspicion that the mastoid infections might be the primary cause, and drainage of the infected antra during life was therefore, carried out. Simple post-auricular drainage was in many instances followed by an extraordinary change in the general condition of the infant. In variable cases, the temperature became normal and diarrhea and vomiting ceased without any change in the character of the feedings. It should be emphasized that in most cases there was no external evidence of mastoid involvement. The decision to operate on these infants was based more upon the general medical findings than upon the otologic indications. It is especially interesting to note that the organisms found in the mastoid at the time of operation and at autopsy were frequently quite different from those found in the middle ear. Marriott says that in his experience over 85 per cent of all gastro-intestinal and nutritional disturbances of infants in recent years have been due primarily to infections in the ear, nose, and throat. Some infants with persistent pyuria show no improvement under the usual methods of treatment until co-existent infections in the ears, nose, and throat are cleared up.

A rather frequent accompaniment to rhinopharyngeal infections in children is disturbed digestion associated with hypochlorhydria. The relation between asthmatic symptoms and purulent sinusitis is well known. The influence of nose and throat infections on nephritis has been much discussed. In children the various forms of nephritis may be seen in the early stages and it is easier to determine possible causative factors than in the cases of adults. The most common type of nephritis seen in children is acute hemorrhagic and glomerular nephritis. This very frequently follows an acute streptococcus infection—generally of the nose and throat. In the majority of instances the condition subsides after a period of time. Albumin and blood disappear from the urine and apparently complete recovery follows. In a small proportion of the cases the symptoms persist. The urine remains unchanged, the blood pressure rises, and there develops finally the picture of chronic nephritis with hypertension and renal insufficiency. Longcope[2] has recently pointed out a relationship between persistence of streptococcus infections of the nose and throat and haematuria.

The rational prophylaxis of any disease consists in the institution of measures to prevent those conditions or diseases which are known to stand in etiological relation to it.

The question as to whether or not infection in the nose and throat may be regarded as a primary cause of parenchymatous nephritis or nephrosis cannot be settled on the basis of available evidence. Patients with nephrosis are known to be very susceptible to infections of all kinds and such patients would be particularly liable to develop nose and throat infections during the course of the disease, even were these infections not originally present.

Wilder, Woodyatt, Allen and Van Noorden[3] stress the importance of focal infection in the teeth, tonsils and sinuses of diabetics. Their collective opinion is that these infections have a decided influence on the disease and that even partial eradication of these foci will promptly show better and more lasting results. There are various diabetic disturbances of the ear, nose, and throat which frequently cause the patient to be observed first by the otolaryngologist. Repeated and persistent furunculosis of the nose and ear is a common finding. The purulent infections of the paranasal sinuses and the ear are undoubtedly more persistent in the diabetic and likewise they occur much more frequently in these patients. Mastoiditis in particular is a most stubborn affair when it occurs in conjunction with diabetes, and the ear man must call upon the internist if he is to get any result. Frequently, it has happened that only through the pre-operative routine laboratory tests at the hospital has the presence of diabetes in these patients been discovered. So impressive has this been that one of our specialty hospitals is now thoroughly equipped for the handling of diabetic cases—

under supervision of the internist. It is only recently—thanks to insulin—that surgical operations could be undertaken in many diabetics. Now, with the close observation and cooperation of the internist, most surgical procedures are undertaken in these patients with little fear of unpleasant sequelae. Not infrequently the throat man sees cases of chronic indurative laryngitis and even laryngeal edema which has as its basis diabetes. How futile would be the specialist's efforts without the cooperation of the internist!

The role of infection in the etiology of hyperthyroidism and goiter seems uncertain. The importance of infection in the course of hyperthyroidism, however, seems to be definitely established. The infections would appear to cause exacerbations of the hyperactivity of the thyroid gland. The removal of focal infections is not a cure for hyperthyroidism. However, when in the opinion of the internist the general condition warrants the removal of offending foci, there would seem to be less recurrence of the thyroid hyperactivity. No surgical procedure in the nose and throat should be undertaken in any case of hyperthyroidism without close observation and cooperation of the internist; for we know what very distressing results any shock may cause. Not so long ago I saw such a patient in whom there was a tremendous hyperthyroid exacerbation following the extraction of a tooth.

Just how vitally alert the oto-laryngologist must be to the connection between his specialty and general medicine may be illustrated by a recent publication of Barlow.[4] After investigations he finds that the deficiency of vitamin A in the diet may cause changes in the mucous membrane of the respiratory tract. These changes may extend to involve the mucous membrane in the middle ear, and the persistence of these affections may be responsible for permanent pathology in the soft tissue of the middle ear—resulting in deafness. At present much work is being done along this very line to help solve the problem of oto-sclerosis. It is my opinion that some similar approach may one day bring a solution to the impasse which now exists in the treatment of atrophic rhinitis.

Because of the great frequency with which acute infections involve the respiratory tract there is perhaps no field of work with which the contact of the general practitioner of medicine is more frequent than in the field of otolaryngology. It is undoubtedly true that a large number of people complaining of headaches, neuralgia, migraine, chronic cough, bronchitis and asthma—in large proportion are suffering from upper respiratory tract infections. The infections of the posterior sinuses are particularly harmful and the posterior ethmoid and sphenoid infections are among the most dangerous foci of infection in the whole body. These sinuses may drain directly into the mediastinum, producing there mediastinal adenitis and peribronchial infection. They may keep alive and active chronic bronchitis, asthma, and bronchiectasis. They may explain latent bronchopneumonia, hilum pneumonias, and they may initiate the flaring up of many a case of previously arrested tuberculosis.

The subject of focal infection has been very sufficiently stressed. However, in a study of the relation of otolaryngology to general medicine, the subject is much too important not to warrant some consideration. Both the clinical and the laboratory evidence at hand is sufficiently definite to permit the statement that the following acute localized infectious processes may be due to haematogenous metastasis from a primary focalized infection: Acute endocarditis, acute pericarditis, acute pleuritis, acute peritonitis, acute infectious arthritis, acute tenovaginitis, acute bursitis, erythema nodosum, purpura hemorrhagica, acute bronchopneumonia, acute cholecystitis, acute appendicitis, acute enteritis, acute colitis, acute gastric and duodenal ulcer, acute conjunctivitis, acute keratitis, acute iritis, acute iridocyclitis, acute uveitis, acute episcleritis, acute choroiditis, acute retinitis, acute optic neuritis, acute thyroiditis.[5] I believe the subject of focal infection at this time may be concluded with the mere recitation of this impressive array of possibilities.

The relation of oto-laryngology to neurology is most interesting. Sometime ago, in conjunction with Dr. Harry Friedenwald, I reported that involvement of all of the cranial nerves except the eleventh and twelfth had been found in connection with cases of purulent otitis media.[6] One might go so far as to say no investigation of vertigo is complete without an examination of the internal ear. The specific reactions which follow the stimulation of the labyrinth by means of the Barany tests furnish a solid basis upon which involvement of the labyrinth, the tract to the brain centers,

XUM

and the centers themselves may be included or excluded as a cause of the disturbance.

Optic neuritis as a complication of infection in the posterior ethmoid and sphenoid sinuses has attracted a great deal of attention since the relation of the optic nerve to these sinuses has been clearly demonstrated, especially by Onodi and Loeb. Even so conservative an author as Shambaugh[7] says that, when such a serious condition as permanent blindness is threatened, the rhinologist should be ready to carry out an operation for draining the posterior ethmoid, whenever the ophthalmologist seems satisfied that there is no other likely cause for the nerve involvement; *even though the nasal findings are negative.* Here again the course of procedure is determined not by the findings in one special field alone, but by the proper evaluation of all of the results of the inquiry.

Tumors of the nasopharynx, which incidentally are not so rare as commonly thought, may cause neurological disturbances involving the fifth, sixth and seventh nerves.

In conclusion, while I fully realize that this discussion of the relation of oto-laryngology to general medicine is by no means complete or exhaustive, I believe that enough has been said to show that the inter-dependence of the oto-laryngologist and the internist is so very great that the best team work of both is necessary if the best results are to be obtained.

BIBLIOGRAPHY.

1. Marriott: *Annals of Oto-laryngology, Rhinology and Laryngology,* Volume 37, page 72.
2. Longcope: See number 1 reference.
3. Quoted from Beck, *Journal Indiana State Medical Association,* January, 1929. Page 1.
4. Barlow: *Archives of Oto-laryngology.* Volume 8, No. 6, Page 629.
5. Tice: Practice of Medicine, Volume 1, Page 333.
6. Friedenwald and Breitstein: Unusual Forms of Extension in Purulent Otitis Media. With Special Reference to Involvement of Cranial Nerves. *Trans. American Otological Society,* Volume 16, Page 373.
7. Shambaugh: *Canadian Medical Association Journal,* Volume 178, Page 1144.

1212 *Eutaw Place.*

THE RELATIONSHIP OF THE ORTHOPEDIST TO MEDICINE.*

By PAUL C. COLONNA, M. D., F. A. C. S., New York.

From an extremely early period in the history of medicine there have been those interested primarily in the mechanical framework of the human body. We know that as early as 600 B. C. the Japanese physicians practiced massage and Hippocrates several centuries later left careful notes on the proper splinting of fractures and the protection of inflamed joints. We may read his description of acquired and congenital club foot, of congenital dislocation of the hip and lateral curvature of the spine, all of which make us regard Hippocrates as the father of orthopedic surgery as well as of all branches of medicine.

Numerous well-known names appear in every period and era of medical history who have by their contributions added to the surgery of the bones and joints, but we can only mention a few: Ambrose Paré (1510-1590) who in 1536 was the first to excise the elbow, and who also described fracture of the neck of the femur and methods for reducing dislocations; Jean Louis Petit (1674-1750) with his practical ideas on the treatment of osteomyelitis; John Hunter (1728-1793) who contributed so much on the growth and repair of bone both in its normal and diseased state; William John Little (1810-1894) who gave the first description of infantile spastic palsy, since called Little's Disease, and who also founded the first British orthopedic hospital for the relief of the maimed and deformed poor; Hugh Owen Thomas (1834-1891) descended from a long line of bone-setters and himself a genius in the treatment of injuries and diseases of the bones and joints by either mechanical support or surgery. Many other names should, of course, be added to this list but time permits only one other, that of Nicolas Andry (1658-1742) whose two volume work "Orthopedia," describing his methods for preventing and correcting deformities in children, was published in 1741 when he was 83 years of age. His observations and methods of treatment are startlingly modern and he has been truly called the founder of modern orthopedic surgery. The boundary of the specialty has, however, extended beyond preventing and correcting deformities of children and recently was described by Sir Arthur Keith as follows: "A specialty to effect the repair of the mechanical framework of the human body by all operations and appliances which have that end in view."

To estimate the value of orthopedic surgery to medicine we should consider not only the historical background but mention some of the causes underlying the beginning of

*Read at the sixth annual meeting of the Ex-Interns' Association of St. Elizabeth's Hospital, Richmond Va., October 1, 1929.

body deformity. In the evolution of mankind certain skeletal weaknesses and characteristics have been evolved and acquired so that a study of the normal becomes especially necessary in order that one may prevent and correct deformity resulting from injury or disease. To this end the study of the so-called functional type of deformity is receiving increasing attention. We know that a tendency toward muscle imbalance may be inherent in certain individuals but the development of proper balance and posture will usually reduce or cure these frequently seen functional deformities such as lateral curvature of the spine, weak or flat feet, round shoulders and certain cases of hollow back. Many of these patients have developed their deformities from poor posture assumed while sitting or walking, those of lateral curvature and round shoulders being far more commonly observed among girls than boys. The school child who insists on carrying heavy books on one arm, the child who constantly slumps in his chair, the worker sitting improperly at desk or work bench, the improperly nourished or underdeveloped child are all possible candidates for postural deformities. The presence of a high shoulder, prominent hip or shoulder blade, noted during a general examination, are usually only outward manifestations of a condition that indicates beginning deformity of the vertebrae themselves and this will in turn affect the normal expansion of the lungs, the position and function of both the heart and abdominal organs. Therefore, these deformities of the trunk are of sufficient gravity to demand careful attention and supervision until their arrest or cure can be assured.

One of the principal causes responsible for a number of young cripples each year is the tubercle bacillus. The bacillus usually lodges in the ends of the long bones or the anterior portion of the bodies of the vertebrae, causing softening with bone and joint destruction, and giving rise to pain, limitation of normal motion, or gross deformity with complete loss of function. Being a generalized disease, an out-of-town hospital with sun treatment. careful attention to recumbency, fixation and traction seems at present to offer with most children the optimum degree of benefit, while with the adult, who is a wage earner, time is a more important element and radical operations should not be delayed.

Another condition in which the orthopedist is particularly interested is in the prevention, care and correction of deformity resulting from infantile paralysis. Recently, extremely satisfactory results have been reported from the use of convalescent serum when employed in the early stages of this disease but it is important and necessary that the serum be administered before the onset of muscular paralysis. Moreover, in the acute stage the medical and orthopedic care should go hand in hand in order that the weakened muscles may be supported, in order that massage may be delayed to the sensitive muscle groups and that the patient may be protected against too early weight bearing. By the wearing of well fitting braces, by operations for the stabilization of weight bearing joints, by transplantation of active muscles to partly compensate for the paralyzed ones, by tenotomies and stretchings of contracted tissues have many of these cripples been made into self-supporting citizens.

The interest and opportunity of the orthopedic surgeon in the treatment of fractures was greatly increased by the World War and today, according to a recent survey conducted by the Chairman of the Fracture Committee of the American College of Surgeons, it was found that more and more interest was being evinced by the orthopedic surgeon and less and less by the general surgeon on this subject. This survey also vigorously condemned the wide open hospital as being conducive to sound work in fracture surgery and found that the centers having a teaching hospital, a moderately controlled or closed hospital, were doing the best work. One of the results of this survey was the appointment of some twenty regional committees, composed of surgeons interested and trained in fracture treatment, their purpose being to organize and disseminate information regarding fracture problems.

The relationship and responsibility of orthopedic surgery to medicine would be incomplete if attention were focused only on the historical and surgical aspects of the specialty in its treatment of the cripple. The social problems connected with the care and cure of this type of indigent patient have only within a comparatively brief period received the attention of the medical profession. Today private philanthropy and public support are vying with one another in this work. An increasing number of states are carefully studying their indigent cripple problem and assum-

XUM

ing the responsibility for their care by using their Boards of Health, Boards of Education or county organizations to carry out a survey and making them responsible for these patients to receive orthopedic care in municipal and special hospitals or convalescent homes. The States of Ohio, Minnesota, Iowa, and New York have especially been at the forefront in caring for their cripples, New York State being the first to erect a hospital school for crippled children. Therefore the problem has enlarged beyond medical, surgical and hospital phases, important as they are, to include cooperative plans for their education, vocational training, guidance and employment. As Edgar F. Allen at the World Conference on the Cripple recently held in Switzerland has said: "The good that has been done in the United States and Canada by Rotarians, Shriners and many other similar civic and fraternal organizations cannot be estimated." It is only by the cooperation and organization of all efforts engaged upon this problem that the cripple can be transformed into a productive, self-supporting and satisfied citizen.

59 *East Fifty-fourth Street.*

BROMIDE PSYCHOSIS OR BROMIDE INTOXICATION.*

By MALLORY S. ANDREWS, M. D., Norfolk, Va.

The purpose of this paper is not to offer anything new and no claim for originality is made. I have drawn freely from the reports and experiences of others. It is my belief that psychosis as a result of bromide ingestion occurs more frequently than the literature would lead us to believe, and it is as frequently undiagnosed.

The general practitioner should be on the watch for patients with bromide intoxication symptoms, because the clinical picture varies, and he is often the first to see these cases. Neurological symptoms may occur, which, together with euphoria, dullness and defective memory, suggests the clinical picture of general paralysis of the insane; others show delirious states, and some finally show an admixture of bromide intoxication symptoms of the more fundamental disease.

A review of the literature from 1875, on this subject, shows a spasmodic case here and there, the symptoms of which, in the light of our present knowledge and the fact that the psychosis developed following the ingestion of bromides and disappeared with its withdrawal, would lead us to believe that the etiology was correct.

One of the earliest reported cases occurred in the family of an English apothecary in the late 80's, the servant having filled the salt cellars from a barrel containing sodium bromide, which was next to a barrel of sodium chloride. The entire family developed a toxic psychosis that cleared up after several weeks.

In 1896, the A. M. A. meeting in Chicago held a symposium on the proprietary preparation Bromidia (which is composed chiefly of chloral hydrate and sodium bromide), condemning its use because it is thought to be habit forming, and because of toxic-psychosis that sometimes followed its use.

When bromides are introduced into the body, their excretion starts rapidly, but proceeds slowly, so slowly, in fact, that (20-30) days after medication has been stopped, the excretion of bromide is not completed. Hence, a retention of bromides takes place, which is due to the fact that bromides in part replace chlorides. According to Bernoulle, a replacement of more than 40 per cent of the chlorides of the blood by bromine is fatal. Wyss, in 1906, found the largest quantity of bromide, after ingestion, in the blood, and almost exclusively in the serum.

This fact led Otto Wuth, of the Johns Hopkins Hospital, in 1927, to devise a method that would at the same time be simple and practical for the detection of the bromides in the blood. The technic of his method can be carried out in any physician's office. 10 c.c. of blood is obtained and allowed to clot. To 2 c.c. of serum, 4 c.c. of distilled water and 1.2 c.c. of 20 per cent trichloracetic acid are added. Allow to stand one-half hour, filter, take 1 c.c. of filtrate and add 0.2 c.c. of 0.5 per cent gold chloride solution, and compare in the comparative with standards made of known quantity of bromide and gold chloride. Wuth has found that 150 mgs. of bromide per 100 c.c. of blood is the toxic limit, and above this point patients are apt to show symptoms of bromide intoxication. Knowing that bromides replace chlorides in the body, this readily suggests a method of treatment—that is, the administration of sodium chloride

*Read before the Seaboard Medical Association of Virginia and North Carolina, at Newport News, Va., December 3-6, 1929.

either subcutaneously, intravenously, or by mouth, excluding, of course, the bromides. Bromide intoxication will not occur if sodium chloride is ingested in sufficient quantity to take care of body metabolism (6-10 grains per day).

The mental manifestations of bromide intoxication are characterized by psychic deterioration, in which the patient is dull, stupid and apathetic. The attention and retention, as well as the judgment and the association of ideas become greatly impaired. A typical delirium often develops. Speech may be disturbed. Active hallucinations, delusions and dream-like experiences are prominent, and are mostly of a persecutory and terrifying nature. The mood is variable, usually depressed, but may be euphoric (like a case I will report). If the attention can be gained, the response is often good.

The neurological manifestations may be ataxia, tendon reflex changes—exaggerated or diminished—unequal, irregular ankle clonus, pseudo ankle clonus, Babinski's, tremors of hands, face, tongue, and other parts. The pupils are frequently dilated, but may be contracted, and are often irregular and unequal. Absent or diminished gag reflex was seen in all of my cases. Most always the light reflex is either sluggish or absent. Speech may be thick and indistinct. Sensory anesthesia, paresthesias and hyperesthesias may occur. The general excitability of the nervous system is greatly lowered. There may be habitual constipation, poor appetite, even nausea and vomiting. There may likewise be circulatory disturbances evidenced by weakness and lowering of tension, G. U. disturbances, retention or diminution of urine, menstrual irregularities, and lowering of sexual function.

Case 1.—Mrs. A. G., age 39, housewife, had been taking bromides for inability to sleep for over two months. Admitted to hospital in an acute delirious state. She tore the uniform off a nurse as soon as she entered her room. Finally she had to be put in a strait jacket. Patient was incontinent of urine and feces. Blood was obtained with difficulty and routine examinations made, which were negative, including Wassermann. Bromides were 400 mgs. per 100 c.c. of blood. Patient was put in salt bath that was kept at body temperature for twenty-four hours. After this, saline was given by rectum and subcutaneously. At the end of a week, bromides in blood had fallen to within normal limits and she was entirely rational. Control over urination and defecation returned.

Case 2.—Mr. T. C., age 57, engaged in lumber business, entered hospital complaining of shortness of breath on exertion, swelling of ankles, confusion, and speech difficulty. Impaired memory. Six weeks before admission he had a hemorrhage from the mouth, the origin of which could not be discovered. His physician put him on treatment (bromides). The patient had always been a very even tempered, jovial person, but, following the hemorrhage, he began to feel depressed, had difficulty in expressing himself, frequently using wrong words. Lately he could not remember the names of his children at times. Physical examination revealed the following positive findings: Heart slightly enlarged to left; systolic murmur at apex; blood pressure 185/110; radial arteries slightly thickened; pulse 80, regular in force and rhythm; blood examination negative—including Wassermann—consisted of routine blood counts, N. P. N., and sugar. Urine, slight trace albumin; phenolsulphonephthalein 70 per cent in two hours. Ophthalmoscopic examination showed early arteriosclerotic retinitis. The first impression, taking in account hypertension, was that the case was one of cerebral arteriosclerosis; but the confusion and speech difficulty and memory defect were out of proportion to the general picture and too rapid in onset, and some toxic influence was suspected. The blood bromides were 200; a week later this had fallen to 160, and when discharged, a week later, it had gone down to 110 mgs. per 100 c.c. His entire personality had changed; he had no difficulty in speech or memory. The final diagnosis made was (1) bromidism, (2) arteriosclerosis generalized, (3) cardiac hypertrophy with hypertension.

Case 3.—Mr. A. B., age 54, farmer and storekeeper, admitted on stretcher. Disoriented as to time, place and person. Euphoric. Insisted that he was selling onion seed to the Prince of Wales. Carried on conversation with people not present. His history, obtained from his wife, was very interesting. He had had pneumonia five months previous to ad-

XUM

mission, lasting two weeks. His physician prescribed bromides for insomnia, following his illness. Ten days later he became moderately delirious. This kept up for several weeks when his physician went hunting and the prescription for bromides gave out; the delirious state then improved. On return of his physician he was put back on bromides and he drifted on in this condition until brought to the hospital. Patient had no control over defecation and was incontinent of urine. Temperature was normal. All deep reflexes were hyperactive, while the corneal and gag reflexes were absent. Babinski negative. He was known to have had 4 plus Wassermann about ten years previous to admission, but it was negative in this examination. Bromide rash was present. Urine showed slight trace of albumin. Spinal fluid examination was negative, as was routine blood examination. Bromides in blood were 325 mgs. per 100 c.c. On salt by mouth and rectum they fell in eight days to 110 mgs. per 100 c.c., and in a week later to 60 mgs. per 100 c.c. He became entirely rational; control over defecation and urination returned.

Case 4.—Mrs. H., age 40, had her left kidney removed by Dr. R. L. Payne, and returned several months later to St. Vincent's Hospital, complaining of burning sensation in bladder. She received cystoscopic treatments for this. Patient was very nervous and bromides were prescribed, 15 grains triple bromides every four hours. This was discontinued after four days. Five days later she became delirious, disoriented, with constant murmuring and tremor of entire body. Blood bromides were found to be 250 mgs. per 100 c.c. in Dr. W. B. Martin's laboratory. Saline was given subcutaneously and by rectum. She became entirely rational after a few days' treatment. Her nervousness, however, still persisted. This case is interesting because delirium came on five days after discontinuing bromides by mouth, showing the slow rate of excretion.

Case 5.—Mrs. M. C., age 58, has had three previous nervous breakdowns. Lately she had been given bromides because of inability to sleep. When first seen, she complained that she heard voices saying she was going to die. It took considerable persuasion to convince her that I had not come to chloroform her. She complained of something being inside her stomach, eating her away. She was afraid to go to sleep for fear that she would not awaken. There were no neurological signs. She was well oriented and insisted that she was not crazy. Patient was sent to hospital and several days later bromides in blood were found to be 210 mgs. per 100 c.c. She was given buttermilk with a teaspoonful of salt, t. i. d. A week later she had no auditory hallucinations, slept well, and said she felt like a new person.

Summary.

A belief is expressed that bromide intoxication symptoms occur more often than they are diagnosed.

A simple, practical method, devised by Wuth, of determining quantitatively the bromides in blood was discussed.

The treatment of this condition with sodium chloride and the elimination of bromides was mentioned.

The neurological and mental symptoms are protean in their manifestations.

A case showing the acute maniacal type of delirium was reported.

A case showing the mildness of mental type of reaction superimposed on arteriosclerosis with hypertension was discussed.

A case showing euphoric type of reaction was presented.

A case occurring in a nervous patient receiving cystoscopic treatments with an idiosyncrasy for bromides was mentioned.

Finally, a case with schizophrenic type of reaction, auditory hallucinations, fear of being gassed, suspicious of food, etc., was described. The mental reaction in all of these cases improved or returned to an approximation of the normal following treatment, viz., (1) withdrawal of bromides, and (2) administration of sodium chloride.

References.

Bromide Intoxication—(Wile): *J. A. M. A.*, 89:340.

Neuropsychiatric Manifestations of Bromism—(McFadden): *Med. Cl. N. A.*, September, 1927, 541.

Rational Bromide Treatment—New Methods for Its Control—(Wuth): *J. A. M. A.*, 88: 2013.

Acute Delirium Apparently Due to Bromidia Poisoning—(Bennett): *J. A. M. A.*, 79:1048.

Medical Arts Building.

WHAT HYPERTENSION MEANS IN TERMS OF VASCULAR FUNCTION.*

By LESLIE T. GAGER, M. D., Washington, D. C.
Clinical Professor of Medicine in the George Washington University.

Arterial hypertension has its great practical interest because today, in this country at least, it takes first place among the causes of human morbidity and mortality. It might be safe to predict that this interest will continue until medical science is able to provide a means of control for high pressure as surely effective as those which it has found for diabetes mellitus and pernicious anemia. Unlike these two conditions, however, hypertension presents problems in prevention and treatment which must be met not only on the purely somatic level—to be dealt with in terms of units of insulin or liver extract,—but which also, it is clear, involve neurologic and psychic factors and integrations. In other words, a balanced mind and a stable nervous system must be present to preserve and regulate the normal vasomotor functions of a sound body.

Of these manifold aspects of hypertension, I wish to limit my discussion today to three: first, a working definition of hypertension; second, the fundamental role of the arterioles in producing and maintaining high pressure; and, finally, the influence these facts have on our attitude toward the hypertensive patient and his management.

In the first place, what are the normal limits of blood pressure?

For an answer to this question, we may turn to the statistics of life insurance medicine. The blood pressure readings, compiled by Hunter, of a quarter million North Americans, show that from an average systolic and diastolic tension of 120/80 at the age of twenty years, the level increases to 135/89 at the age of sixty years. This is a rise, for each five year period, of approximately 2 mm. Hg. in systolic pressure and of 1 mm. in diastolic and pulse pressures.

Within these narrow bounds are the physiologic limits of arterial tension!

What happens when the elevation of pressure exceeds, consistently, the age standard?

In a series of 4,165 persons who had hypertension without other serious physical impairment, Fisher demonstrated that when the pressure was 10 to 14 mm. above the standard, the extra mortality—the number of deaths in this group of people beyond normal experience and expectation—was 36.1 per cent. This added mortality became 83.8 per cent when the systolic pressure exceeded the average for age by 15 to 24 mm.; it rose to 314.7 per cent beyond normal when the pressure was 50 mm. or more above the standard. Such facts, and the data of others which is equally impressive, reveal the fallacy of empirical and arbitrarily selected standards of blood pressure in clinical medicine, and explain the constant lowering of that level—now placed at 140 to 150 mm. Hg. according to age—which means the beginnings of hypertension and its sequelae.

Now what, to come to our second point, is going on in the body to bring about this rise in pressure, which, however variable and intermittent it may be at the outset, becomes, as we follow our patient, progressively higher and more persistent? Is it the kidney? In the earlier stages of hypertension, renal function is not only unimpaired but may be actually supernormal, while we have all been disappointed in the hope of finding pressor metabolites retained in the blood. Is it the heart? In uncomplicated hypertension, competent observers find neither the velocity nor the minute-volume of the blood put out by the heart to be abnormally increased. Is it arteriosclerosis? This is both absent in extreme hypertension, and excessive where hypertension has never existed.

But if, in a man with hypertension, we compare the pressure of 200 mm. Hg. in the brachial artery with the simultaneous tension of 20 mm. in a finger capillary, we get a clue to arteriolar activity and the "throttling" effect of contraction in these terminal vessels. This functional state is further shown by the vascular constriction to be seen under the capillary microscope, by the pallor of the patient in the throes of the paroxysmal hypertension of the suprarenal syndrome, or by the spasm which may be observed in the retinal arterioles during acute hypertension induced in the dog by guanidine, or appearing in the woman with severe eclampsia.

With few exceptions—such as aortic insufficiency and thyrotoxicosis where increased cardiac output raises systolic pressure,—hypertension begins as a manifestation of abnormal functional activity of the arteriolar smooth muscle.

*Read at the annual meeting of the Medical Society of the District of Columbia, May 7, 1930.

Finally, this increased functional activity of the smaller vessels leads directly and inevitably to structural changes. The smooth muscle of the arteriole hypertrophies, and the intima proliferates. In the retinal vessels the progress of hypertensive vascular disease may be studied directly; biopsy reveals these changes in the arterioles of the pectoralis major; at necropsy they are found in many organs throughout the body.

Unfortunately, the structural reactions to vascular strain do not stop short at compensation, but go on, if the stimulus persists, to degeneration and degradation of tissue, and eventually the weakest spot, so often a coronary or cerebral vessel, gives way.

Functional hypertension, labile, reversible, susceptible of some degree of therapeutic control, is converted into anatomic hypertension, with loss of vascular reactivity and the necessity thenceforth of maintaining high pressure if blood sufficient for their nutrition is to reach the various body tissues.

The treatment of the patient with hypertension, it follows, is most effective when the blood pressure is variable, least hopeful after fixation has occurred, and perhaps inadvisable, as far as attempts to reduce pressure are concerned, when structural disease is far advanced. "Setting" of the high pressure, however, is rarely complete, and intervention is never without some promise of relieving symptoms, if not of staying the progress of the disease. But early in the course of hypertension, when it is yet a functional malady, should be the physician's great opportunity.

It is possible, I believe, to warn and advise a patient with early hypertension without making him neurotic; to suggest the virtues of philosophic detachment and mental relaxation; to improve habits of hygiene, such as those of work, sleep, exercise and play; to lessen the "metabolic load" by sensible selection, quite as much as by restriction, of diet.

In addition, I would advocate, as far as is now possible, a specific or substitutive therapy, in order to combat the cellular alterations which underlie vasoconstriction, and to promote dilatation of the terminal stream bed. Limitation of sodium chloride is robbed of much of its hardship by its replacement with sodium malate, and the judicious use of bromide and iodide, nitrite and sulphocyanate offers opportunity for substitutions which often bring lessening of vascular constriction, improvement of peripheral circulation, lowering of blood pressure and relief of symptoms.

Such measures are at least first steps in a therapeutics which aims to be more than what President Hoover recently described as "the kindly art of making the patient feel as hopeful and comfortable as possible while he was dying of the disease, the origin and treatment of which was as yet undiscovered," because they are based, I believe, on sound physiological evidence that disturbed vascular function is the primary mechanism in hypertension.

REFERENCES.

Frost, Harold M.: Hypertension and Longevity, *Life Insurance Medicine* (New England Mutual Life Ins. Co.), Boston, 1:136, 1926.

Gager, Leslie T.: Hypertension, Williams and Wilkins, Balto., 1930.

Hoover, Herbert: Address on the Occasion of the Eightieth Birthday of Dr. William H. Welch, April 8, 1930.

Kernohan, Anderson and Keith: The Arterioles in Cases of Hypertension, *Arch. Int. Med.*, 44:395 (September), 1929.

Krantz, J. C., Jr.: Use of Sodium Malate Combinations as Dietary Substitute for Sodium Chloride, *Ann. Int. Med.*, 3:826 (February), 1930.

1614 *Rhode Island Avenue, Northwest.*

CARCINOMA OF THE PROSTATE.*

By A. A. CREECY, M. D., Newport News, Va.

Cancer of the prostate until recently was considered as a rather infrequent disease. Unfortunately, the converse of this is true and its occurrence as a urological problem is certainly a more common one than is frequently supposed. There are several points associated with carcinoma of the prostate which are very applicable to the modern conception of control of cancer by early recognition, diagnosis and treatment. The suffering experienced by those patients dying with late, far advanced carcinoma of the prostate is probably not exceeded in any other form of cancer. Localized pain, urinary retention or incontinence, frequency, dysuria, and very often an open operative sinus continually giving passage to the outflow of foul, infected urine, along with generalized pain from metastatic lesions, especially to the osseous system, tend to make the last days of these unfortunate individuals about as miserable as can be experienced. It is fortunate that the mucosa of the rectum is quite resistant to invasion and that of the urethra and bladder slightly less immune. On

*Read before the Seaboard Medical Association of Virginia and North Carolina at its annual meeting in Newport News, Va., December 3-5, 1929.

the other hand the disease is not one which manifests itself early and it is therefore the serious problem of the physician to discover its presence as soon as possible and to have always in mind the possibility of its occurrence in all cases of prostatic obstruction and especially those between the sixtieth and seventieth years as statistics very clearly show that it is in this decade of life that carcinoma of the prostate is most prevalent.

Etiology: There has been no progress in specifying factors to which the formation of carcinoma in the prostate can be attributed. Gonorrhoea and prostatitis of non-specific origin apparently do not play an important part. Even the predilection for the origin of carcinoma and of benign hypertrophy is in different portions of the gland, for the former usually begins in the posterior lobe while the latter has origin in the submucous or periurethral glands and cannot be considered as playing an important part in the etiology of the disease.

The frequency of the occurrence of the disease is well established. Records in several large clinics show that over 20 per cent of all cases presenting with symptoms of prostatic obstruction have carcinoma of the prostate. The largest percentage of cases occurs in the seventh decade with the frequency diminishing but second in the eighth decade followed closely by occurrence in the sixth decade. The fact that one in every group of five men presenting with symptoms of prostatic obstruction has cancer must of necessity place the physician on guard in making his diagnosis and deciding whether or not the patient can with reasonable safety resort to catheter life.

As has been stated the growth of the cancer is well resisted by both the rectal and bladder mucosa so that the most favorable results are obtained in those cases which are encountered early. Just how long the carcinoma has been progressing is impossible to tell but it is assumed that its symptoms are manifested a long while after its incipiency. This is based on records obtained from the time of onset of symptoms to lethal exodus which show the disease to be a slowly progressive one. Bumpus has shown that the average survival in seventy-one cases without metastases which were not treated, was 3.4 years. This includes only that time from the onset of symptoms and does not consider the length of time the growth required before manifesting itself. I have recently observed a case with a history of prostatic obstruction of over five years' duration who was refused operation several times because of a marked cardiac arrhythmia. No evidence of carcinoma could be felt but section of the gland following operation which was forced upon us by acute retention revealed it to be carcinoma. He has been entirely healed with no evidence of local recurrence or metastases for the short period of five months but it is probable that the lesion had been present a good while and illustrates the slowness of its growth.

Symptomatology: The cardinal symptoms are frequency of urination, difficulty of urination, pain, retention and hematuria. Two or all of these may occur concurrently. Frequency is the most common complaint with difficulty and pain following closely in order. Hematuria, contrary to expectation, is not so common, nor is complete retention. Another but rather rare symptom is occasionally seen in the presence of a lymph node enlarging in some remote portion of the body which may be a signal node of prostatic cancer. Local and referred pain is more common in carcinoma than in benign hypertrophy and should always make one suspicious of the former. With cancer of the prostate of long duration, rectal pain and pressure of rather severe intensity is frequently encountered.

Pathology: Perhaps one reason for the apparent increase in cancer of the prostate is the more careful macroscopic and microscopic examinations which necessarily result in more accurate diagnoses. A great many cases of carcinoma are found by careful serial section of the gland which heretofore would probably have been termed a benign hypertrophy or small fibrous gland. One case recently seen at the Buxton Hospital demonstrated this fact very nicely. A patient, sixty-six years of age, who entered the hospital with complete retention was relieved uneventfully of his prostate gland and recovered fully. On admission the gland was twice normal size, normal in consistency, and no nodules were palpable so that the pre-operative diagnosis was benign hypertrophy. Repeated serial section through the entire gland by Dr. M. B. Beecroft disclosed a very small circular area less than 1 cm. in diameter just beneath the capsule. The microscopic report of this area was as follows: "Just beneath the capsule at one point several large

XUM

accumulations of atypical epithelial cells are noted which tend to assume a glandular appearance but which invade the tissue in an irregular manner. These cells vary in size and shape and have a granular cytoplasm. Many mitotic figures are noted. *Diagnosis:* Carcinoma of Prostate." This demonstrates the value of close inspection of all tissue as it indicates what further line of treatment must be carried out and also furnishes a basis for a more accurate prognosis to the patient's family.

Different forms of prostatic cancer give varied clinical courses. Ewing divides them into three groups.

(1) Adenocarcinoma arising on chronic prostatitis usually gives symptoms of chronic hypertrophy and may be discovered only in the extirpated gland.

(2) Adenocarcinoma arising on hypertrophy gives a large, hard, nodular prostate, which eventually extends locally and finally generalizes.

(3) Fully developed carcinoma, alveolar or diffuse, may fail to cause much enlargement, symptoms are moderate and metastases may occur early.

There is some difference of opinion as to the structural changes. Young refers to all carcinoma of the prostate as being adenocarcinomatous in type. Ewing refers to carcinoma of the prostate as malignant epithelial tumors in three structural types: adenoma, adenocarcinoma and carcinoma, and also recognizes a rare form of squamous epithelioma, as it has been demonstrated that in the upper anterior portions of the fetal prostate the ducts are lined with squamous cell epithelium up to the third month of life or later. Schmidt has found extensive squamous epithelial metaplasia in chronic suppurative prostatitis. One of our recent cases was probably of this type as the gland at operation was found to be abscessed, generally necrotic and had to be removed piecemeal. Microscopic report by Dr. M. B. Beecroft showed it to be "made up of atypical epithelial cells, which appear to be of the squamous variety. They vary in size and shape, many being extremely large. Many mitotic figures are noted. A small amount of supporting fibrous tissue is present." The *pathological diagnosis* was, "Prostate gland—Carcinoma (squamous)."

The rectal and bladder mucosa are resistant to prostatic carcinoma. Local enlargement and spread usually occurs slowly under the trigone and in the seminal vesicles. General metastases are equally tardy in appearance. The skeletal system is most frequently attacked and Kaufman estimates that seventy per cent of all prostatic cancers cause bony metastases. The spine and bony pelvis are usually first attacked and, once started, diffusion is somewhat rapid and widespread. Metastasis to other organs is more rarely encountered.

Diagnosis: This is most important and the principal recourse, rectal examination, is within the limits of every physician's ability. The most characteristic finding by rectal examination is hardness or marked induration, although occasionally a soft carcinoma may be encountered. An early case might manifest itself in the form of a nodule much more indurated than the surrounding portion of the gland. Extension to the seminal vesicles, and intervesicular angle is common. The typical case is fixed, stony hard, irregular and nodular. Palpation of the posterior urethra through the rectum with the cystoscope or sound in the bladder often reveals more induration and greater distance between the two than is found in benign hypertrophy. Presence of the latter should never exclude carcinoma in making a diagnosis. The cystoscope is of little aid but helps to eliminate other conditions. All suspected cases of carcinoma of the prostate should be given the advantage of radiographs of the vertebrae, pelvis and lungs. The disease should be suspected in all males over fifty years with symptoms of prostatic obstruction.

Treatment: Treatment is of course varied and depends to a great extent on the duration, extensiveness, and symptomatology of the disease but in general it can be divided into operative, radiation, or a combination of both. If the case is diagnosed early before extension either locally or by metastases has been marked, Young advocates his radical operation by which the entire gland, both seminal vesicles, the prostatic urethra and part of the trigone are removed following which the stump of the membranous urethra is anastomosed to the remaining portion of the bladder. Incontinence is rare following this if the nerve supply of the anterior wall and pelvic fascia is not sacrificed. Others prefer suprapubic enucleation followed by radium implantation through the suprapubic opening. If the dis-

ease is more extensive beneficial results can be obtained by the use of radium in different methods of application. This is especially true for relief of hematuria and deep-seated pain. Progress along these lines has been very satisfactory within recent years. By careful selection of filters and the judicious selection of appropriate sites for the application of radium, many of the disagreeable after effects have been eliminated while still obtaining a maximum regression of the carcinoma. Application may be made and the radium held in situ by special instruments both in the rectum and urethra. Probably one of the most satisfactory methods is a combination of radium and operation in which the prostate gland is exposed through the perineum and small gold tubes of emanation are implanted 1 cm. apart throughout the tumor mass. Barringer has treated far advanced cases with long radium needles thrust into the gland directly through the perineum. Most of these cases receive definite relief of symptoms under radium therapy properly handled and it is possible that a few cases have been cured. Deep X-ray is used in conjunction with radium and seems to produce better results than radium alone.

Conclusions: 1. Carcinoma of the prostate occurs in over twenty per cent of all cases of prostatic obstruction and is more common than usually supposed.

2. It is most frequently seen between sixty and seventy years of age and the rate of growth is slow as is evidenced by the duration of life after symptoms appear.

3. Symptoms are not diagnostic but are sufficient to direct attention to the prostate.

4. All removed glands should be examined carefully and serial sections should be made.

5. The most valuable diagnostic aid is rectal examination which, unfortunately, is too frequently overlooked.

6. Treatment during past few years has been progressively improved with new conceptions of radium and operative procedures. Cures are infrequent but palliation is almost certain.

Elizabeth Buxton Hospital.

Sittin' down and wishin'
Doesn't change your fate;
The Lord provides the fishin',
You must dig the bait.
—*Selected.*

TEMPORARY PHRENIC INTERRUPTION EARLY IN MINIMAL OR MODERATELY-ADVANCED PULMONARY TUBERCULOSIS.

By S. EDWIN HUGHES, Jr., M. D., Monrovia, Calif.

During the past few years much has been said and written regarding the use of surgery in the treatment of far-advanced pulmonary tuberculosis but surgery in minimal or moderately-advanced tuberculosis not only has not been advocated but has been frowned upon and condemned by many men who are considered authorities on the subject. It is the purpose of this paper to show the plausibility and advisability of using a temporary phrenic block early in certain cases of minimal or moderately-advanced tuberculosis. In suggesting such a radical departure from the accepted scheme of treatment, much adverse criticism is to be expected but we feel sure this criticism will give rise to a discussion that will react favorably toward the idea herein advocated.

While urging the adoption of a temporary phrenic interruption in early or moderately-advanced active tuberculosis, we are not unmindful of the good results following phrenicoexairesis or avulsion of the phrenic nerve in far-advanced tuberculosis under certain conditions. We feel that it should be done as a routine preparatory measure in all theracoplasties. It not only gives relief from the up and down, piston-like motion of the diaphragm, but it gives the surgeon an insight of no mean value as to the reaction of the patient to surgical procedure and acts as a barometer in indicating the ability of the better lung to carry on under its increased burden. In cases where there is more or less cardiac embarrassment, due to adhesions between the diaphragm and pericardium or to displacement of the heart and mediastinum as a result of contraction of the lung in old fibroid tuberculosis and where other surgery is contraindicated, a very comforting measure of relief may be obtained by the relaxation of the diaphragm following avulsion of the phrenic nerve. The decrease in the size of cavities, regardless of their location in the lung, the decrease in cough and sputum and the drop in temperature add to our conviction that permanent paralysis of the diaphragm has a very definite and permanent place in the treatment of far-advanced pulmonary tuberculosis.

The physiology of the chest and of respira-

XUM

tion is too well known to be discussed at great length but a few points will be of value in presenting this subject. Normally, the intrapleural pressure is lower than atmospheric pressure and is called negative pressure, while within the lungs we find atmospheric pressure. Because of the greater pressure within the lungs and their elasticity, they are forced to fill all available space in the thoracic cavity. From this we see that the lungs become larger and smaller depending on changes in the size of the thoracic cavity. During inspiration, the thoracic cavity becomes larger and during expiration, smaller, and the size of the lungs changes correspondingly. These changes are brought about by contraction of the diaphragm and, through the action of the muscles of respiration, elevation of the ribs. In an adult, under normal conditions, this respiratory cycle takes place at the rate of 18 per minute. At this rate we find that the average adult, under ordinary conditions, uses his lungs, through expansion and contraction, more than 25,000 times a day. When we think of this enormous figure we are not surprised at the difficulty often encountered in healing pulmonary tuberculosis.

The basic principles involved in the treatment of tuberculosis have undergone little or no change and we can safely say that increasing the individual resistance to the disease and bringing about functional rest of the diseased part are the most important factors. Rest is the factor over which we have the most control and it is the keystone of successful treatment. The more completely it can be achieved, the better is the result.

Nature has led the way in making us realize the importance of rest. In many persons suffering from chronic tuberculosis we see a flattering of the chest, retraction of the clavicle and soft tissues and, due to increased obliquity of the ribs, a narrowing of the chest; all efforts on the part of Nature to bring about functional rest of the diseased lung. Following the example of Nature, man has made great progress in this field. As early as 1821, James Carson, an Englishman, was urging the production of artificial pneumothorax. He realized how great a bar to healing were the elasticity, condition of extension and constant movement of the lungs. Collapse of the lung would place the diseased part in a state of quiescence and eliminate much of the disturbance from the respiratory movements. Many efforts have been made to bring about rest of the diseased lung and among these we may list certain postures, sand and shot bags, various devices for limiting the expansion of the chest and finally, surgery of the present day. In the final analysis, bed rest is really an effort to bring about functional rest of the diseased lung through decreasing the respiratory rate and diminishing the depth of inspiration.

Pulmonary tuberculosis is usually classified as minimal, moderately-advanced and far-advanced, depending on the extent of involvement. Sanatorium care, with the aid of surgery in certain cases, accomplishes much in a small percentage of the far-advanced cases, but we can expect our best results in those cases which we consider minimal or moderately-advanced and these cases should demand our greatest attention. Returning to our routine treatment as applied to these selected cases, we find that rest is the outstanding factor. The functional rest obtained from institutional treatment is very limited, at best, and in a large percentage of early cases is not sufficient to bring about a cure or an arrest of the disease. In those cases that do not improve under routine treatment, we have merely lost valuable time.

By producing a temporary phrenic interruption in minimal or moderately-advanced pulmonary tuberculosis in which the involvement is largely or entirely confined to one lung, we feel that we have a most valuable addition to the accepted treatment. As early as 1913 Schepelman suggested phrenicotomy in early tuberculosis and since that time it has received occasional mention but has not been strongly advocated.

We need not go into detail regarding the technique of the operation other than to mention the various ways in which the desired result can be obtained. Temporary interruption can be produced by: 1. Simple section of the nerve. 2. Section and immediate suture. 3. Intraneural injection of 70 per cent or of absolute alcohol. 4. Freezing of the nerve with ethyl chloride. 5. Crushing of the nerve. Personally, the latter method if preferable. At the time of operation, if a black silk suture is tied around the nerve, it may be easily located if, at a later date, we desire to do a phrenicoexairesis.

Following simple phrenicotomy, the diaph-

ragm relaxes and this, combined with the pull exerted by the negative intra-thoracic pressure, causes it to rise in the thorax from 2 to 4 centimeters. This reduces the volume of a 2,400 cubic centimeter lung from 400 to 800 cubic centimeters and in a few cases, greater reductions have been reported. Due to the presence of the accessory phrenic and other accessory fibers, we cannot expect as great an elevation of the diaphragm as that obtained following a radical phrenicotomy. On the other hand, in early tuberculosis, the rise of the diaphragm is not prevented by pleural adhesions or an indurated, inelastic lung, as is so often the case in far-advanced tuberculosis or tuberculosis of long standing. After considering the results of many observers, we can safely say that, on an average, the diaphragm will resume its normal function in from four to six months.

Through elevation of the diaphragm, relaxation of the lung is produced and its volume reduced, thereby causing a certain amount of pulmonary rest. Added to this, the pumping action of the diaphragm is eliminated and this is the chief factor in resting the lung. By increasing the functional rest of the diseased lung, the time necessary to bring about an arrest of the disease will naturally be diminished.

In addition to the actual rest of the lung, certain other factors are to be considered. Since the movement of pulmonary lymph depends largely on respiratory movement, there is a diminished flow of toxin-laded lymph into the general circulation and of bacteria-laden lymph into uninfected portions of the lung. This tends not only to prevent spread of infection, but to improve the general condition of the patient. Pulmonary rest also tends to prevent spread of the disease by means of the bronchi during respiration. Cough and expectoration are made easier after paralysis of the diaphragm because with a collapsed diaphragm, the abdominal muscles, which play such an important part in forced expiration, are allowed to act more quickly and with greater force. Finally, a temporary phrenic block, through its beneficial effects, will have a distinct economic value by lessening the time necessary to bring about an arrest of the disease.

Simple phrenicotomy should be done before attempting artificial pneumothorax because, if successful, it will eliminate the necessity for "refills" over a long period of time and at the same time will entail none of the many dangers and complications attendant upon induction of artificial pneumothorax. If the results obtained from temporary phrenic interruption are disappointing, we have lost nothing and can still fall back on artificial pneumothorax.

Conclusions

Temporary phrenic interruption should be done early on minimal or moderately-advanced cases of pulmonary tuberculosis in which the involvement is limited largely or entirely to one lung, because:

1. Increased functional rest of the diseased part will be produced.
2. Spread of the disease will be lessened.
3. Cough and expectoration will be made easier.
4. It will have a definite economic value.

References.

Alexander, John: The Surgery of Pulmonary Tuberculosis. 1925. pp. 25, 44, 45, 175, 178, 179, 180, 182, 184.

Myers, J. A.: The Normal Chest of the Adult and the Child. 1927. pp. 1, 49, 50, 54, 55.

Mayer, Edgar and Leetch, Henry: Cavities in Pulmonary Tuberculosis. *Journal of A. M. A.*, Volume 93, Number 4. July 27, 1929. pp. 272-276.

129 *North Canyon Drive.*

THE PROTOPLASMIC BLIGHT.*

By J. H. BELL, M. D., Colony, Va.
Superintendent, The State Colony for Epileptics and Feeble-Minded.

I am glad of this opportunity to discuss for a few moments in a general way the problem of mental disease in its biological relation to the development of the species.

Modern theories of evolution teach us that life probably began as a unicellular organism, subsisting at the will of a creator in the warm marshes of a new world. As time elapsed, perhaps millions of years, these monocellular organisms, which had been capable of amoeba-like movement only, directed by the laws of evolution, began to split up into more complex multicellular structures, to develop definite stoma or mouths for feeding, to develop simple digestive organs, to take on definite shapes and certain appendages for locomotion which were best adapted to the media with which they were then concerned. In an aeon

*Read before the Mental Clinic at the sixtieth annual meeting of the Medical Society of Virginia, in Charlottesville, October 22, 1929.

or two, perhaps, certain species began to be differentiated and thus there was developed the flying fish, which could travel in both air and water and is thought to have been the progenitor of bird-life upon the earth.

Other multicellular organisms, left in inland puddles by the receding marshes, began to adapt themselves to land-life, and so there came to pass the land lizard, the scorpion, and other four-footed crawling things that were both amphibious and earth-going. And from these early, simple structures of life, has sprung the vast variety of species which we have upon the earth today, the highest form of which is man.

For millions of years man has steadily progressed in intellectual capacity and the perfection of his social relationships, so that today it is a far cry from the modern, intellectual human being to the Neanderthal or Heidelberg man, whose physical form we are told was quite similar to our own, or the Cromagnon race from which we are said to be direct descendants. We are well aware of the fact that only by the most careful breeding in lower animal-life, can true types be maintained, and that if mongrelism slips in, it will soon make itself apparent in a deviation from the standard: a deviation that lowers the type and thwarts the purpose for which it is being bred.

It is a well established fact, and I believe is confidently accepted by most medical men, whether their work is largely concerned with mentally defective persons or not, that most epilepsy, feeble-mindedness, and insanity is of an inherited nature, and is being transmitted through blood lines from generation to generation in the medium of a defective germ-plasma, and it may be interesting to you to know, if you have not already learned this, that through the comparatively recent experiments of the biologists, Fere, Dyer, Smith, Ziegler, Stockard, Craig, and others, it has been proven beyond reasonable doubt that both toxic and traumatic factors may enter into the production of a defective germ-plasma in a normal person of normal antecedants: a germ-plasma capable of transmitting both defective physical characteristics and defective mental traits to succeeding generations.

The biological factors of racial degeneracy necessarily involved by the widespread dissemination of a great number of defective people amongst the general population must certainly act to lower the general level of intelligence, as the ramification of transmitters is so extensive that it either touches or penetrates somewhere into the branches of nearly all large families. With these remote ramifications at this time, however, eugenics is not especially concerned, but its main effort should be directed toward an attempt to identify and bring under social control the potential members of such notoriously defective families as have become socially and economically inadequate: with such defective lines broken into, and with some results to show for its labors, eugenics may then fairly attack the more delicate problems which lie before it.

Professor Laughlin of the Eugenics Record Office, at Cold Spring Harbor, New York, an international authority on sociological statistics, has estimated that there is 1 feeble-minded person to every 200 in the United States—or more than 500,000; 1 epileptic to every 500— or about 200,000; and 1 insane person to every 350—or about 300,000. This estimate is based upon reports from various States in which careful census of their defective population have been made.

I apprehend that the situation in Virginia is not greatly different from that in other Commonwealths, and in estimating our population at about 2,500,000 we would, therefore, have in this State, according to modern criteria, about 12,500 people who are of subnormal mentality; 5,000 confirmed epileptics; and 7,000 insane. Neither mental defectiveness nor epilepsy is in the main curable, and all that can be expected in the former is improvement in the moral and physical being, betterment of his economic efficiency by manual training, and the elimination to some extent of such conduct disorders as may have rendered the individual unacceptable to Society; in the latter only by prolonged institutional residence and subjection of the individual to a routine of treatment and living, can even amelioration of the seizures be obtained, and in many instances even this is impossible of accomplishment.

Out of a possible 24,500 feeble-minded, epileptic, and insane persons in this State today there are under institutional control at the State Colony for Epileptics and Feeble-

Minded, 496 of the first and 367 of the second; and at the State Hospitals for the insane approximately 6,000 are under custodial care and treatment.

The admission rate at the State Colony averages about twenty new cases per month, such vacancies being made possible by deaths in the institution and by the discharge and parole of sterilized defectives and epileptics. The total number of cases, therefore, in the institution in any one year would be about 1,100. With contemplated extension, which may be confidently expected in the next few years, the total number that can be cared for will be increased by about one-third, and even then we shall still be inadequate for the work that should be done.

In racial improvement by segregation and sterilization we should think in terms of centuries not years, as only by sustained and widespread effort, over long periods of time, can anything worthwhile be accomplished.

By the death rate amongst defective people and by extension of the procedure of sterilization to its extreme limit, it may not be unreasonable to expect that within a century the limitation of defective offspring may be made at least to keep pace with the birth rate, and if so, the proportion we now have in the general population may not be greatly increased. At least this is a hope to which one may laudably aspire, provided the State will use to the fullest extent all social forces, both of an official and a voluntary character, that are at its command.

I want to ask you to pause for a moment and pass with me into a realm of speculation, visualizing in your mind's eye, a world peopled by a race of degenerates, defectives, and insane, a world gone topsy-turvy, and sunk in the slough of despond, the great edifices of our present civilization are falling in decay, the arts and inventions are forgotten, the boulevards of our great cities have become waste places, and the countryside uncultivated is fast receding to an aboriginal jungle, all moral and social codes have long ago been discarded and a people totally devoid of ability for progress or intellectual advancement wander nomad-like from place to place, subsisting as best they can on the forage provided by nature, a people sunk in moral and social obliquity and maintaining only such instincts for the preservation of the species, as are necessary for the ever extending propagation of their kind.

The history of man's activities upon the earth teaches us that many nations in the past have arisen to great heights of wisdom, culture, and refinement, only to be sunk in the midst of oblivion because of widespread racial degeneracy. I have no doubt but that the most potent cause of such declines was the dissemination amongst these peoples of defective germ-plasma, which served to lower the general average of intelligence and breed an insane, defective, and degenerate race. Otherwise, such complete destruction and obliteration of what had once been highly organized empires could never have taken place. We have as apt illustrations the destruction of the Grecian and Roman Empires, that were not so remote as to precede the beginning of written history: back of that time the Egyptians, with a very highly organized civilization; and there is evidence in the earth today of great cities, concerning whose founders and peoples there can be only speculation. Why did they not continue to progress in their arts and sciences? Why did they not continue to replenish the earth? Because they were the victims of their own germ-plasma.

Our present social order by its benevolent attitude towards those who are incapable of fending for themselves has acted to prolong the life of defective people and has thus helped to promote the propagation of their kind, and to offset this a sound policy of eugenics should be adopted. This would involve better social control of defectives at large, the enactment of eugenical marriage laws, and the temporary segregation in institutions for sterilization of as many defectives as possible.

In the light of our present knowledge, the wisdom of such a course cannot reasonably be questioned, and the right of the State to protect its citizens from the ever increasing burden of defective, degenerate, and criminal people is a paramount duty, and of the utmost importance to the welfare of Society.

It is hoped that this Medical Body will take cognizance of the situation as it exists today, to the end that every physician may be alert to the recognition of potential transmitters in his community, in order that these may be segregated from the general population or ren-

XUM

dered incapable of procreation by sterilization, for only by the united efforts of all socially-minded people can we hope to avoid such experiences as have befallen other enlightened nations in the past.

A RESUME OF TREATMENT OF FOUR HUNDRED AND SIXTY-TWO CASES OF ACQUIRED AND CONGENITAL SYPHILIS WITH REFERENCE TO INTERSTITIAL KERATITIS AND SPINAL FLUID FINDINGS.*

By H. McGUIRE DOLES, M. D., Norfolk, Va.

In an attempt to discuss this subject it is my desire, first, to impress upon you that this paper is incomplete. Statements will be made which in all probability you will question and undoubtedly be justified in doing so. The findings are compiled from my records as they were made at the time each case was under observation, using my best judgment and all available recourses I could command at the time to avoid errors.

Criticism, either constructive or destructive, will be welcomed, as it is from the discussion, which I hope will follow, that something will be gained.

I have met a great many difficulties, the greatest of all being to get these patients to realize the gravity of this disease and return for treatment and observation. Failures have been frequent, yet some results obtained have been indeed very gratifying.

To make a brief statement as to the mortality rate from syphilis, this disease ranks sixth. In 1926, there was 16,466 deaths from this disease, as compiled by the United States Bureau of Vital Statistics in the registration area. As you know, sixteen states are not in this area, and their reports are not acceptable. As a majority of the latter are in the South, these figures would probably be greatly increased on account of the negro population. General syphilis was first with 8,965 cases; general paresis showed 5,900, and tabes dorsalis 1,601. The death rate per hundred thousand was 15.7. General syphilis gave a rate of 8.5, paresis 5.6, and tabes dorsalis 1.5.

It is interesting to compare the latter figures with those of England and Wales where the rates are: Syphilis 6.3, general paresis 3.7, and tabes dorsalis 1.9—giving a total death rate per hundred thousand in those countries of 8.8.

During the past four years ending September 1st, I have Wassermannised 11,963 individuals, varying in age from six weeks to seventy-eight years, in my private practice and at the King's Daughters' Clinic. Nine hundred and forty-one positive Wassermanns were obtained—a percentage of 7.8. Out of this series, 462 have received one or more series of antisyphilitic treatment. Four hundred and seventy-nine cases untreated were mothers of children admitted to the clinic where a routine Wassermann is done on each mother and child. As the clinic is devoted exclusively to the treatment of children, the mothers were referred elsewhere for treatment, with one exception. This will be referred to later.

One hundred and sixty-nine mothers were positive, with negative children, while sixty-three children were positive, with negative mothers. All of the irregularities were checked from two to three times to avoid error.

As it not infrequently happened that one mother had more than one child that was specific, you can readily understand the discrepancy in figures. Fifty-three children that showed positive Wassermanns when first taken were negative, without treatment, to the second and third Wassermanns.

One hundred and forty-three babies received six or more doses of sulpharsphenamin—.1 gm. per thirty pounds of body weight; however, no child, except pre-matures, was given less than .1 gm. This was injected intramuscularly into the buttocks once weekly in 1 c.c. of distilled water, using the same time mercury and iodides.

After an average of six doses, twenty-three were negative, or 16.9 per cent; seven were 2 plus, five a 3 plus, while forty-one showed a 4 plus Wassermann; sixty-nine have not returned for the second Wassermann.

One hundred and sixty-nine children and adults received an average of eight doses of neoarsphenamin—.1 gm. per thirty pounds of body weight—also receiving mixed treatment. Thirty-two were negative, or 21.8 per cent; four were 2 plus; six a 3 plus, while sixty-six were still 4 plus; sixty-one have not returned for Wassermann after treatment. One hundred and twenty-nine children were given six or more doses of sulpharsphenamin intramuscularly. With an average of six

*Read before the Norfolk County Medical Society, November, 1928.

doses, each; thirty-seven were negative, or 28 per cent; ten were 2 plus, and four a 3 plus, thirty-nine were 4 plus. Forty-one cases did not return for recheck. A higher percentage of negatives was found after the use of sulpharsphenamin than neoarsphenamin. Eighteen mothers were treated. In order to determine the effect of this drug on adults, all eighteen cases were given six doses intramuscularly; five were negative, six were 4 plus, and seven have not been back for the second Wassermann. This gave a percentage of 27.7 negatives.

Comparing the negative Wassermanns obtained after the use of neoarsphenamin against the total number of cases, we have 21.8 per cent negatives, while in sulpharsphenamin we have 24.8 per cent. Again, to compare the Wassermann before and after treatment, we have 29 per cent negative neoarsphenamin, and 37 per cent negative for sulpharsphenamin.

The Chemical Properties of Sulpharsphenamin, Its Manner of Administration And Comparative Value to Neoarsphenamin

Sulpharsphenamin, a sulphurous acid ester of arsphenamin, differs from neoarsphenamin in structural formula slightly, and contains 22-24 per cent arsenic against 18-20 per cent in the latter. It is more stable than neoarsphenamin, both in powder and solution, as has been proven by Voegtlin and his associates. It is therapeutically equal to neoarsphenamin, but is of much lower toxicity. It is eliminated as rapidly by intramuscular as by intravenous injections, has a greater ultimate sterilizing power than neoarsphenamin, and its chemotherapeutic index (ratio of toxicity to parasitical value) is equal to arsphenamin itself. Given in 30-40 per cent solution—.4 gm. in 1 to 1½ c.c. of water—it may be injected intramuscularly or subcutaneously, in adults or children, without irritation, although it is more beneficial intramuscularly. Its ease of administration and its low toxicity makes it of extreme value in infants and elderly individuals, particularly those of advanced age suffering from circulatory disorders. Ehrlich, Eick, White and Mills, Fordyce, and Craig and Sutton have found it particularly effective. Smith, Deyer and Thompson found sulpharsphenamin superior to neoarsphenamin in syphilis of the nervous system when administered by the blood stream, and comparable to tryparsamid which has the highest penetration of any arsenical yet devised.

Bernard Emery, Boone and Weech, in approximately 550 cases with 5,000 injections, indicate that chancres and secondary eruptions involute rapidly under sulpharsphenamin, and the spirillicidal effect is rapid by intramuscular injection. The general therapeutic effect and action of the Wassermann ranges between neoarsphenamin and arsphenamin, but, in general, is at least equal to the latter. Spirochaeta pallida disappear from chancres in ten hours after administration of the drug and in seven cases in seven hours. Chancres heal in from seven to ten days.

Stokes and Behn obtained 100 per cent cures, as shown by spinal fluid and blood Wassermanns in seven cases of primary syphilis; 92.8 per cent in secondary syphilis, and no neural occurrence has been noted. Late syphilis gave 66.6 per cent negative in twenty-one cases, four weakly positive.

Twenty-eight cases of neuro-syphilis received sulpharsphenamin without intraspinal Swift-Ellis treatment. Fourteen were negative in one course and one at the end of the second series. Some of these patients had received previous treatments for neuro-syphilis, ranging from six to twenty-seven injections of original arsphenamin, or six to eighteen injections of neoarsphenamin. Sixteen patients received intraspinal Swift-Ellis-Ogilvie treatments in conjunction with sulpharsphenamin intramuscularly. Blood was drawn on the morning following the intramuscular injection and the intraspinal treatment with arsphenamin reinforced. Serum was given on the morning of the second day after the intramuscular injection. Eleven of the sixteen patients, whose reaction to the blood and spinal fluid was positive before the combined sulpharsphenamin intraspinal treatment, became entirely negative on both blood and spinal fluid—ten in one course, and one in two courses. These patients had previously received from six to twenty-four arsphenamin injections, with mercury, without any improvement serologically, also from the standpoint of spinal fluid.

Cardiac cases responded in reversal of serologic findings at the rate of 46 per cent. Eleven Wassermann-fast cases, after receiving from twelve to twenty-nine injections of arsphenamin, with mercury and iodides, were

XUM

rendered Wassermann negative after eight doses of sulpharsphenamin.

In my hands sulpharsphenamin has been used in ages varying from one month to seventy years, in the latter only when no hepatic or nephritic pathology was present, as it is the opinion of the writer that its use under such conditions would be dangerous.

One must bear in mind the superior arsenical value of this drug over neosalvarsan, and doses over .4 gm. are advised against. Six cases were increased to .6 gm. for two doses each, but complaint was made of headache, nausea and dizziness coming on within an hour after the administration of the drug and lasting from eighteen to twenty-four hours. Needless to say the dose was returned to .4 gm.

Out of this series only one local reaction was noted. In my absence a patient was given .4 gm. in 5 c.c. of water. It was attended by severe pain and swelling of the entire leg—not unlike the reaction seen in neosalvarsan when it escapes in the tissues. This patient was unable to walk for a week.

Interstitial Keratitis

Briefly speaking, and to quote Fox, interstitial keratitis is a diffuse chronic inflammation of the entire corneal tissue, of constitutional origin, involving the cornea proper and the elastic lamina. It is characterized conspiciously by the absence of any tendency towards the loss of corneal tissue, suppuration or vascularization being very rare in this form of keratitis. There is, on the other hand, round cell infiltration of the deeper parts of the cornea, with a scattering of polymorphonuclear, neutrophiles, epitheloid and giant cells. A similar process is present in the ciliary body and iris. Vascularization of the cornea from sclerosis has occurred. Disposition of this exudative substance within the cornea causes an opalescent opacity. Inherited syphilis is responsible in 50 per cent of the cases; it is more frequent in girls than boys, and often occurs during the second dentition. Even in adults congenital syphilis may be considered, although it may be the result of an acquired infection. Other etiologic factors will not be considered here, as it is the specific type that will be dealt with at this time.

The manner in which the infection occurs is still a matter of question. Elsching feels that toxins reach the cornea by way of the limbus. Bab and Von Hippel found spirochaetes in the cornea. Guy believed it a gummatous condition.

In this series there are seventeen cases, ten females, and seven males, showing 69 per cent females. Sixteen were of congenital type, with an average age of six years. One male, thirty-four, was the result of acquired syphilis.

The diagnosis was made by a competent ophthalmologist, and the treatment of the eyes locally was under his direction. These patients were treated by me only from the standpoint of syphilis.

The first case, a girl thirteen years of age, with a bilateral infection, was treated with neoarsphenamin, receiving at the same time mercury and iodides. At the end of her sixth treatment there was still some photophobia, redness of conjunctiva, and the yellowish hue of the cornea was still present. Bismuth in one-tenth gm. doses replaced the neoarsphenamin. After the third dose all eye symptoms had disappeared and she was perfectly comfortable. By the end of the tenth dose the ophthalmologist considered her eyes clear and she was permitted to return to school. Wassermann was two plus. She was given ten more doses of bismuth and a second and third check on Wassermann was negative. She has had no return of symptoms to date.

In view of such satisfactory results, four cases were treated with bismuth primarily, receiving from six to twelve doses. No improvement was noted. The bismuth was stopped and sulpharsphenamin, one-tenth gm. per thirty pounds of body weight, was substituted, using mixed treatment at the same time. At the end of the sixth dose, improvement was noted. However, evidence of keratitis still existed. These patients were again put on bismuth, each receiving twelve doses. Number one was clear after the third dose. Cases two, three and four showed no symptoms by the fifth dose. They are all symptom-free at present. One has a negative Wassermann, two have a 2 plus, and one a 4 plus.

Eleven other cases were treated primarily with sulpharsphenamin and mixed treatment for six doses, followed by twelve doses of bismuth. Two cases had no photophobia after their sixth dose of sulpharsphenamin. Three were unimproved, while five showed evidence

of slight improvement. Each was then given a series of twelve doses of bismuth. All were clear from the standpoint of symptoms and physical examination by the sixth dose. Four were Wassermann negative, three 2 plus, while three are 4 plus.

A male, aged 34, gave a history of an initial lesion fifteen years ago and at that time a positive Wassermann. He was treated a period of over two years. At the time he was referred to me he had a bilateral keratitis, but a negative blood Wassermann. In view of his history, it was decided to give him bismuth twice weekly. Improvement was noticed after the seventh dose. By the end of the twelfth dose, he experienced no discomfort whatever. He was given twenty doses and at time of discharge was symptom-free, and the specialist in attendance considered his eyes normal.

Bismuth was first used by Sazerac and Leviditti in 1921, later by Muller, Cagal and Spierer. Torak was the first to regard it of greater value than mercury; however, Pinard and Frank have been a bit skeptical as they think it produces anemia and emaciation. Kleefield thinks it is superior to arsphenamin in keratitis. Milan values arsphenamin ten, bismuth seven, and mercury four, as spirocheticides. Carroll Wright was very enthusiatic of it in the eight cases treated by him. In other forms of syphilis of congenital type, only four were negative out of forty cases after receiving from thirty to forty doses of neoarsphenamin, yet he was able to obtain twenty negative Wassermanns of this same series after twenty to thirty injections of bismuth in each case.

Guy found interstitial keratitis present in 1 per cent of fifteen thousand eye cases, though there were 6 per cent in two thousand five hundred and thirty-six syphilitics. Females predominated, 59 per cent, but it seems to be less malignant in this sex. He makes no reference to the use of bismuth in treatment, using arsphenamin with mercury and iodides. Twelve weeks was the average time required before his cases became symptom-free.

I am unable to agree with Pinard and Frank that bismuth produces anemia and emaciation, as in no case was anemia noted; however, a gain in weight from three to fifteen pounds was observed. No case in this series was treated without the assistance of an ophthalmologist. We were fortunate in rendering every case symptom-free. Six were Wassermann negative, while five were improved serologically. Four were strongly positive, while one was negative when treatment was begun.

From my observation in this series, my firm conclusion is that bismuth is possibly the greatest adjunct to arsphenamin we have in the treatment of interstitial keratitis; yet, when given alone in the presence of a positive Wassermann, I have been unable to obtain the satisfactory results that I did when the patient had first been salvarsanized.

Spinal Fluid Findings in Congenital Syphilis

Does congenital syphilis involve the central nervous system? If so, what is the earliest age it may be expected, and, if present, what type?

I shall confine my remarks entirely to the spinal fluid findings, although three cases are under treatment at present. No attempt will be made to discuss the latter, as the time devoted to this particular phase will not justify any statements made relative to results obtained.

Thirty-one children, twenty-seven males and four females, varying in age from six months to fourteen years, with an average age of seven and a half years, were selected at random from this series of known specifics. Careful physical examination, with particular investigation of the eye-grounds by an ophthalmologist, was made before any puncture was done. The fluid was studied from the following standpoints: Appearance, pressure, globulin, cell count, quantitative sugar, Wassermann and colloidal gold.

Twenty-nine were clear, while two were slightly cloudy. Four showed a marked increase and two very low pressures. Nine cases showed a definite globulin reaction, using both the Pandy and ammonium sulphate method. One had a cell count of four and a positive blood and spinal fluid Wassermann, likewise a positive paretic curve. A second had a definite trace of globulin, a cell count of forty-nine, also a positive paretic curve, and a four plus spinal fluid Wassermann. A third, with a cell count of four, likewise had a four plus spinal fluid Wassermann, also a positive paretic gold curve. A fourth had a cell count of two, a positive spinal fluid Wassermann,

XUM

also a positive paretic curve. Case five had a negative spinal fluid Wassermann. The cell count was six, and reacted positive to the colloidal gold.

Cell counts varied from one to forty-nine, with an average of six and two-tenths. Thirteen showed only one cell.

Sugar estimates were interesting, with a general average of 44.6 mg. per 100 c.c. Females showed a slight increase over the males, with 45.4 mg. against 43.3 mg.; 20 mg. was the lowest recorded, while 58 was the highest. The four cases showing a positive paretic curve, revealed an average of 41.75. Spinal fluid sugars we know vary with the blood sugar, Wilcox and Lyttle claiming this is one-half the blood sugar. Kubie and Scholtz obtained 33 to 81 mg. per 100 c.c. Grayzel and Orent were unable to establish a fixed percentage. They obtained from 40 to 190 mgs. Unfortunately, blood sugars were not done in this series. However, a standard of 69 mg. of spinal fluid sugar per 100 c.c. as Seham and Nixon describe, is taken as the normal, as the work of other investigators compares favorably with this.

Twenty-six were punctured under a general anesthesia for obvious reasons, which necessitated this group being without food twelve hours previous to the puncture. An average of 43.2 mgs. was obtained, yet five cases done under local anesthesia within a period of two hours after meals gave an average of 46.8 per 100 c.c. The difference seems negligible.

The writer was unable to find in the literature anything by American or English writers on the sugar estimates and spinal fluids of known congenital syphilitics. Much has been written by both French and German investigators; unfortunately, it was not possible to get these articles.

Comparing the average sugar of fluids from individuals not infected with syphilis, it seems one would be justified in believing that syphilis in all probability has some definite bearing on the sugar content of spinal fluid.

Five cases gave a typical paretic curve to the Lange colloidal gold reaction. These were two babies, six and eight months old, and three children, six, eight, and twelve years old. Four showed a strongly positive blood and spinal fluid Wassermann. The six months old baby's blood Wassermann was four plus, spinal fluid Wassermann negative, yet a typical paretic curve was obtained. There were some red blood cells in this fluid, although it was centrifuged until no cells were present microscopically. The correctness of the curve may be questionable. In this small series 16 per cent were paretics. No tendency to either the meningitic or tabetic curves was noted. Whether the latter exists, I am unable to say.

Dayton lays little stress on syphilis as a cause of mental deficiency, as out of nine thousand one hundred and eighty-three cases, only 5.4 per cent were mentally deficient.

In a series of thirteen selected cases reported by Grulee, of Chicago, he found the colloidal gold reaction to assume at times the same degree as shown in cases of paralytic dementia. He was unable to find any agreement between the blood and spinal fluid Wassermann or colloidal gold. He also found a positive gold curve in the presence of a negative spinal Wassermann. Likewise, he was able to demonstrate a strongly positive spinal fluid and gold reaction, but a negative blood. This we not infrequently find in adults. I did not find this true, but in all probability my series was not large enough. Tubercular meningitis gave a gold reaction from 1 to 160 and 1 to 320, but varied with the progress of the disease. He was unable to associate idoicy or epilepsy with any gold reaction.

Influence of Blood and Serum on Colloidal Gold Reaction

After obtaining a typical paretic curve in fluid containing blood, I was interested to know whether blood or serum would have any effect on gold reactions—if so, the type of curve produced. A number of fluids which were gold negative were treated with blood, and again set up; no reaction was obtained. Unfortunately, serum was not used alone.

Mehrtens, Wychoff and Davis found in their investigations that spinal fluids which are contaminated with blood, but from which the cells have been removed by centrifugation before hemolysis occurs, produce a gold curve, altered in intensity only. The type of curve remains the same. Spinal fluid from patients with general paralysis, made normal by treatment, on contamination with blood plasma, shows a tendency to revert to the former paralytic type of curve. The original colloidal gold curve of spinal fluids, experimentally contaminated with patient's blood, can be ap-

proximately reconstructed, provided hemolysis has not occurred. There appear to be reasons to believe that similar reconstruction can be made of curves of spinal fluids accidentally contaminated.

Conclusions

1. The percentage of negative Wassermanns in hereditary or acquired syphilis is larger after treatment with sulpharsphenamin than neoarsphenamin.

2. The use of sulpharsphenamin is not nearly as restricted as neoarsphenamin.

3. Sulpharsphenamin is practically adapted to the treatment of all forms of syphilis.

4. Interstitial keratitis is amenable to treatment, and excellent results may be obtained by the combined use of arsphenamin and bismuth.

5. The value of bismuth is certainly enhanced if the patient is salvansanized first.

6. Children with hereditary syphilis may have involvement of the cerebral nervous system, and paresis is the type of lesion found.

7. Spinal fluid sugars seem to be decreased in syphilis.

Bibliography.

Guy: Pittsburgh, Penn. *J. A. M. A.*, Nov. 6, 1926, Vol. 87, No. 19, page 1551.
Elching: Ophthalmology, F. 62, 481, 1926.
Reis: Ophthalmology, F. 66, 201, 1907.
Bab: *Wchnschr.*, No. 48, page 194, 1906.
Von Hippel: Ophthalmology, F. 68, 354, 1908.
Carroll Wright: *J. A. M. A.*, Aug. 6, 1927, Vol. 89, 424.
Muller: *Med. Wchnschr.*, 69, 12, 1-22.
Cagal and Spierer: *Presse Med.*, April 18, 1923, 31, 354.
Pinnard and Frank: *British Med.*, 37, 894, 1923.
Cardose, Nathan: *Muchen Med. Wchnschr.*, May, 1924, 16, 71, 647.
Klien: *Wchnschr.*, 4, 1922.
Milan Therapeudic Gazette, Jan. 5, 1927, 10, 74.
Grulee, A.: *Journal Diseases of Children*, 1924, Vol. 28, page 147.
Stokes and Behm: Mayo Clinic, Vol. 16, 1924,, page 669; also *J. A. M. A.*, 1924, Vol. 78, 242-246.
Merhtens, Wychoff, Davis: San Francisco; Abstract from *American Journal of Syphilis*, Vol. 19, 1928.

503 *Medical Arts Buildng.*

NEURASTHENIA.*

By WILLIAM EDWARD FITCH, M. D., Bedford, Penn.

Definition: Beard, of New York, in 1869, described a condition of a dissimilitudinous group of disorders as *neurasthenia*, the common characteristics of which were manifestations of fatigue, exhaustion and prostration, without symptoms of organic disease. Various types of functional nervous disorders had been previously described many years before Beard's excellent work appeared, yet, his was the first effort at generalization. Still there were included types of cases which are now recognized as presenting features which justify a different nomenclature. Even today, we are far from a satisfactory and universally approved definition of neurasthenia. However, no attempt will be made in this direction and we shall accept the commonly adopted view that "*Neurasthenia is a functional nervous disorder characterized by manifestations suggestive of a state of fatigability and irritable weakness, which may be observed in any or all of the bodily activities and yet without any evidence of disease, and with a broadcasting of symptoms to parts distant from the alleged disorder.*"

The conception of functional disorders has been the subject of much controversy: and by some, even today, it is a debatable question whether disturbances of function can exist without change in structure. There is not much doubt that the term "functional," as largely used today, covers a multitude of diagnostic sins, so far as the underlying structural changes are concerned.

General Considerations: Neurasthenia is almost never observed as a *primary* disease entity. It is more generally *secondary*, and is accompanied by a complex series of symptoms which are aided and abetted by *loss of energy, a lessened normal power of recuperation, an inherent weakness, an unstable mental state, and persistent autosuggestion.* The peculiar mental characteristic of the neurasthenic and the predominating emotional vagaries are *characteristic*, and greatly influence prognosis. *The accompanying mental traits* "good or bad, higher or lower than the average, something outstanding or sunken" *label* the *neurastheniac: they are often due to heredity and therefore the prognosis is not encouraging.*

This class of patients are egocentric; self-effacement is out of the question: the mind is set upon some grave disorder with a play and radiation of symptoms to parts far removed from the supposed disorder, depending largely upon the self-suggestibility of the neurastheniac's faculty for autosuggestion.

Neurasthenia has in recent years been alluded to as an "American disease" (Americanitis). However, it is by no means a modern disease, nor can it be designated a purely

*Read by title at the sixtieth annual meeting of the Medical Society of Virginia, in Charlottesville, October 22-24, 1929.

American disease. This symptom-complex was known to the ancients, and Hippocrates wrote descriptions of similar diseased conditions many hundred years ago. Primary neurasthenia, where there is no attending or provocative disease, presents a history, in early life, of "irritable weakness," which generally characterizes all neurasthenic states. Such individuals come into the world handicapped with lowered vitality and lowered resistance; their *cerebrospinal system and general nervous mechanism* do not respond to the ordinary stress and strain of modern existence; throughout life's vicissitudes, the neurasthenic complex is liable to become predominant on the slightest cause. Even after long periods of freedom from multitudinous annoying symptoms,—with the hoped for recovery in sight,—something unexpected happens, some slight cause supervenes and there is a return of the condition and the persistent autosuggestion continues to influence the whole mental make-up of the patient.

It is held by competent clinicians that "neurasthenia is not a *primary* disease," but is a *secondary* result of some "exogenous" factor. In the "predisposed," it usually develops between the twentieth and fortieth year; the most frequent causes are mental and physical stress and strain. Clinical experience seems to verify the fact that it is more likely to develop in the active and originative than in the loiterer who moves along the lines of least resistance. Cleghorn, in a study of 6,000 cases, came to the conclusion that it was more frequent in men than in women. Sedentary habits magnify the symptoms, and indolence and ennui invite self-suggestion which mothers the neurasthenic state.

Etiology

Predisposing Causes: Trustworthy statistics upon the etiology of neurasthenia are wanting, for the principal reason that we have no widely accepted definition of the disorders which are now included under the present nomenclature. *Sex.*—The disorder is thought to be somewhat more prevalent in females than males; however, Cleghorn's experience was to the contrary, and Von Hossling, in a series of 832 cases, found that 604 were males. *Age.*—In discussing the incidence of age in this disorder, Singer says: "fully one-fourth of the cases have developed, as nearly as can be determined, between the ages of twenty and thirty ; 30 per cent between the ages of thirty and forty, and 40 per cent between forty and sixty." The approach of the climacterium in middle life, in both sexes, has a greater provocative influence on the development of neurasthenia than that of the pubescent period in early life. *Heredity.*—The hereditary influence of some neuropathic family taint can be traced in the majority of cases. Individuals of poor hereditary endowment are more inclined to develop neurasthenia than are those of a *rugged constitution.* On the other hand, it would seem logical to assume that the greater the degree of familial taint the more likely the probability of transmitting the kind of functional disorder to the offspring. *Social Status.*—No social group is exempt from neurasthenia; it is found in hovels of the indigent and in the palaces of the opulent. It is more frequently observed in brain than hand workers, and in metropolitan centers than in the rural districts. Beard, in his original work, stressed, with emphasis, the apparently greater incidence of the disorder in American cities, and held that the hustle, stress and strain of American business methods was highly provocative of the neurasthenic state.

The stress and strain of our high powered civilization has become so enormous that weakened nervous systems succumb to them. The overwhelming desire for preferment in business or social struggle, an insane quest after the pleasures of life, foolish attempts to get a whole week's activities out of a twenty-four hours, the demands for sensational literature and "Jazz," for rapid transportation and for violent stimuli, erotic plays, the indulgence of sex, etc., all are provocative of and conducive to "wear and tear" of the nervous system. The present attitude of the American mind regarding marriage, divorce and the sex problems, plays a role which severely taxes the nervous system of the predisposed, and leads to discontent, disappointment and dissatisfaction, fatigue, and disability. Any exogenous factor, such as mental strain, economic or professional competition, social disadvantages, may foster the development of the constitutional predisposition.

Over-work.—Contrary to the widely accepted belief that over-work is directly chargeable for the development of neurasthenic conditions, there is today a steadily "growing appreciation of the fact that the real significance of over-work in relation to neurasthenia has

not been properly grasped," and it is simply begging the question to assert that over-work, *per se*, is responsible for the condition. Experience, however, has shown that work habitually prolonged—"burning the candle at both ends"—will bring about nervous, mental and physical exhaustion.

Idleness in persons who inherit a predisposition to any neurosis is one of the prime factors leading to a neurasthenic state, and is a great deterring factor against regaining the equilibrium necessary to overcome the condition. The unoccupied individual thinks *too* much of his ailment, though he may suffer from a minor disorder or an acute indisposition, when he allows his mind to dwell upon it exclusively and habitually: he imagines his symptoms to be of the most serious significance, and, through the impression of his self-suggestion, this imaginary gravity takes possession of him and becomes an obsession which harasses him from within and without.

Luxury and its gratification, idleness, vacant, vain and frivolous, and its indolent ennui, the stress and strain of our modern high-powered civilization, are severally and collectively robbing the predisposed of their resistance. "Judicious healthful occupation brings, with the dissipation of the symptom-complex," happiness, contentment, a sound mentality, normally functioning organs, ready to fight disease and throw off the emotional element which hinders restoration to health and happiness. The neurasthenic, free from organic disease, who continually thinks of self, who is "hipped" over his ailments, who holds certain symptoms continuously before his mind's eye, who is egocentric, cannot make the grade; recovery is impossible without sufficient mental uplift to give him a boost, with honest suggestion and healthful employment.

Emotional stress and strain is a potent and probably the most important factor in the development of this disorder. Along with conditions of emotional stress must be considered increased responsibility, business and financial worries or reverses, changes in the method of living and occupation, unexpected misfortune, failure in achievement, or of expected reward or appreciation, and sudden shocks of accident, strife and death may overwhelm the neurasthenic.

Insufficient early discipline, want of self-control, and failure to live a normal average life have a far-reaching influence, resisting unfavorably the recuperative powers. Faulty hygiene and lack of education are potent factors tending to rob patients of the forceful faculty to lift themselves above their environments and out of the condition into which they gravitate on the slightest provocation.

Occupational Influences.—Agreeable occupation often improves the condition of these neurasthenics, more especially if there is no worry or undue excitement. It is often remarkable how the confirmed neurasthenic responds to suggestion and employment which keeps his mind active but without mental or physical fatigue. Employment amidst favorable and pleasing surroundings is most helpful.

Focal Sepsis as a Factor.—In evaluating the neurotic and mental changes associated with focal sepsis, one can recall the well-known mental disturbances due to toxaemia, frequently observed in infective fevers, such as typhoid or pneumonia. If an acute infection so seriously disturbs the mental faculties in a few hours, it is not unreasonable to assume that a chronic toxaemia could seriously upset the mental equilibrium in the course of several weeks or months. A careful painstaking history and meticulous physical examination of this type of patient will often reveal foci of infection. The favorite sites of such infections are the roots of the teeth, the tonsils, and the sinuses. The architecture of these anatomical areas is such that the "infection" is corked up tight with no exit. The toxins from these foci are gradually absorbed into the circulation and carried to distant parts of the body, exerting deleterious effects upon the joints, ligaments, and may be responsible for degenerative diseases of the cardiovascular system and kidneys: likewise, such focal infections may be etiological factors in bringing about neurotic conditions which culminate into a neurasthenic state.

Intestinal Toxaemia Due to Starchy Fermentation.—The accepted belief that intestinal toxaemia is caused by a meat diet, and that it can be relieved through a dietary of fruits, nuts and carbohydrates, is now known to be erroneous. The greater number of such cases are due to the fermentation of starches and sugar. In normal digestion starch is completely digested, converted into a soluble sugar in the upper part of the small intestine, and

there "side-tracked" out of the intestine, and absorbed into the blood stream. When for some reason such digestion and absorption do not take place normally, a portion of the starch eventually reaches the *bacteria-infected* colon, and fermentation takes place with the formation of gas and poisonous products, the absorption of which is responsible for a long train of symptoms, chiefly nervousness, easy fatigue and general wretchedness. The same detrimental results follow, with even greater force, to the ingestion of large quantities of sugar. Small amounts of this substance can be detoured from the small intestine into the circulation and prevented from reaching the colon. If, on the other hand, inordinate quantities are consumed, fermentation, with its evil effects, is sure to follow, with resulting trouble, as with raw starches.

Everybody today consumes inordinate amounts of sweets. A century ago the annual per capita consumption of sugar in the United States was 5 pounds; fifty years ago it was 30 pounds, and today it is about 100 pounds.[1] In these cases the characteristic tongue can be readily observed, coated, sometimes glazed red, with indentations of the teeth around the tip and edges. The neurasthenic patient is a pathetic, tragic individual, and very often his deplorable condition is the result of very obvious intoxications and focal infections.

Clinical Types.

Various clinical types of neurasthenia, mainly for convenience of description, have been outlined; the numerous subdivisions receiving their nomenclature from the organs to which the leading symptoms pointed, such descriptive titles as *cerebral*, *spinal*, *gastric*, *cardiac*, *sexual*, etc., neurasthenia. This attempted effort at diagnostic precision in classification was not a brilliant accomplishment, since, from clinical experience, we have seen one week a *cardiac* neurasthenic who will become *sexual* neurasthenic the next. However, we will, for the present, follow the old "well worn" classification.

Symptomatology.

The beginning of the attack of neurasthenia is so insidious in its inception that it is difficult to state, with definite precision, the commencement of leading symptoms. Usually some alleged *exciting cause*, such as an emotional shock, accident, an infectious fever, or other prolonged exhaustive illness, is charged with the etiology. A careful review of the case and of the preceding history of the "breakdown" will often reveal the fact that evidences of anxious apprehension and a feeling of deficiency and inadequacy have antedated the onset of the *exciting cause*. The prodromal uneasiness, uncertainty and restlessness sways the neurasthenic to a moroseful outlook upon his condition. He has, though unsuspected by his family, a feeling of over-whelming incapacitating infirmity, a dread of inadequacy, which he may honestly have tried to throw off, which in itself is infinitesimal and insignificant as compared with the suffering anxiety and distressing wretchedness which rounds out the picture of a "breakdown."

Cerebral neurasthenia is that variety in which a condition of incapacity for work and for responsibility has been induced by excessive mental work, by constant and onerous responsibility, usually associated with anxiety, worry and mental strain, perhaps also associated with domestic or financial difficulties.

Spinal neurasthenia is frequently accompanied by pain of a severe character in the back, often throughout the length of the spine, but in many cases much intensified in the cervical region and in the region of the coccyx. Accompanying this pain there is frequently associated weakness of the lower limbs. The knee jerks may be active; there may be pseudo-clonus, but the plantar reflex is not of the extensor type; indeed, it may be difficult, or even impossible, to elicit any reflex from the sole of the foot. Such cases are usually of traumatic origin and often referred to as "railway spine."

Cerebro-Spinal Symptoms.—In the performance of mental work the neurasthenic will complain of depressing fatigue and exhaustion. His calvarium will have a feeling of emptiness, he experiences the greatest difficulty in concentrating his mind on a given subject, his memory is bad, and his thoughts are hazy and confused. He feels tired, restless, irritable and anxious; even minor trifles cause excessive worry, his nerves are on edge, and his miserableness robs him of rest. Even a bright light, the ticking of a clock, or the slight disturbance caused by a member of the family moving about the room may throw him into a frenzy of irritation, leading to rapid and com-

1. Fitch, W. E.—Dietotherapy, Vol. I, pp. 620-635, D. Appleton & Co.

plete exhaustion. The patient has difficulty in recalling where he puts things, or in remembering the names of people and places. Mental concentration is a hopeless effort and may be accompanied by all the outward manifestations of fatigue and exhaustion, small-rapid pulse, changes in breathing, sweating and lassitude. The sufferings and complaints are aggravated and intensified by their discussion, and can be greatly mollified by hopeful explanation and assuring encouragement of the outlook of his condition. Insomnia is frequently an annoying phenomenon. These patients will tell the doctor they have not slept for days, weeks, or even months. They certainly sleep, though extremely light, so that the slightest noise disturbs the patient. Such patients will lie quietly for hours and, when questioned later, will state that they were aware of all that took place in the room, etc. On awakening in the morning, the patient is not refreshed, and feels more tired than when he went to bed, which adds to his increasing feeling of helplessness and hopelessness.

Cardiac neurasthenia is a most distressing condition, in which the cerebro-spinal functions may be only slightly disturbed, while the cardio-vascular symptoms may be alarming; again, the conditions may be just the reverse. Palpitation, with irregular heart action, pain and oppression in the cardiac area, are the most distressing symptoms. Aortic pulsation, producing throbbing in the epigastrium, and which can be readily observed in these subjects may be mistaken for aneurysm.

Cardio-Vascular Symptoms.—The patient will complain of flushings of the face, dizziness, throbbing in the ears, sinking sensations, etc., urticaria, while coldness of the hands and feet may and often is present. The body secretions—urine, sweat, saliva—may be either lessened or increased. The urine is frequently loaded with oxalates, phosphates or urates.

The action of the heart is variable; the pulse may be normal or thereabout while lying quietly abed, but becomes markedly accelerated on arising. Arhythmias of functional type may be noticed: they are not, however, nearly so frequent as the complaints of irregular heart action, palpitation, etc. The blood pressure may be entirely normal, and, though hemic murmurs may be observed, there is really no evidence of cardiac disease.

Gastric neurasthenia, or anorexia nervosa, is a distressing condition, with complete loss of appetite, regurgitation, vomiting, and the whole series of phenomena associated with nervous dyspepsia. The subject is usually a young girl between the ages of seventeen and twenty-five. Carelessness about food, with the absence of compelling appetite, lead to irregularity in feeding; the meals are minced over and the patient gradually wastes.

Gastro-Intestinal Symptoms.—The patient usually complains of fullness, pressure, or distress after eating, or even of slight pain after belching, loss or irregularity of appetite, a sleepy feeling, or even weakness or dizziness. The tongue is sometimes clean; again, it may be large, flabby and show indentations of the teeth on its tip and edges. There is marked mental depression; the patient is nervous, anxious and irritable. The outstanding "peculiarity of these cases is that the quality and quantity of the ailment seems to make but slight difference in the symptoms" (Kemp). At times indigestible food can be taken with impunity, and, again, the most easily digestible food will produce symptoms of discomfort. The appetite gradually fails until food positively becomes repugnant, so that even moderate indulgence in the most delicate and tasty viands leads to actual retching and vomiting. Such a patient wastes progressively, until at last she is nothing but a living skeleton.

Sexual neurasthenia is a condition in which there is an irritable weakness of the sexual organs manifested by nocturnal pollutions, unusual depression after intercourse, and often by a distressing dread of impotence, or with remorse for some form of sexual depravity and dread of its consequences; in these cases also, the sensations and symptoms pointed out in the cerebral and spinal type may be present. "The sexual neurasthenic is a difficult patient to influence. He has, as a rule, been misled by designing quacks or debasing literature, which has magnified his neurasthenic state, and has set in motion an almost continuous self-suggestion with all of its evil consequences." He will, if not taken in hand by honest suggestion, lapse into *sexual hypochondria*. Sexual neuroses in women is often as intractable and rebellious as in men. Recurrences are often discouraging, but most cases finally recover.

Sexual Symptoms.—In many cases these symptoms so completely dominate the picture that they are termed "sexual neurasthenia." In

the male, the usual complaint made to his physician is frequently nightly emissions, erotic dreams, lack of sexual desire, incomplete erection, premature ejaculation, absence of organism.

The laboratory findings from a sample of urine reveal slight changes from the normal. Oxaluria, phosphaturia and indicanuria may be found in slight excess. The percentage of indican indicates the putrescence of a protein dietary and constipation. In the female, menstruation becomes scanty and irregular, a fact which, with autosuggestion, brings the fear of premature age, and loss of vitality of the generative organs.

Neurasthenia as an Endocrine Syndrome.—"The typical neurotic generally, if not always, has disturbance of the thyroid gland. The typical neurasthenic probably generally has disturbance of his suprarenal glands on the side of insufficiency. The blood pressure in these neurasthenic patients is almost always low and their circulation is poor. A vasomotor paralysis, often present, allows chillings, flushings, cold or burning hands or feet, drowsiness when the patient is up, wakefulness on lying down, and hence insommia. There may be more or less tingling or numbness of the extremities."[2] Beyond doubt, many of the symptoms of neurasthenia are potently of sympathetic origin—the clammy hand, flushed or pallid features, dilated pupils, the innumerable paresthesias, the unwonted sensations of heat in the head or body.

Sympatheticotonia.—In certain types of the neurasthenic state this class of symptoms are the chief or only manifestations of the disorder. Here we have a well-defined condition of sympatheticotonus, which is a condition of active tonicity, resulting from over-action of the sympathetic nervous system. "Here is a condition of hyperactivity of the sympathetic nervous system manifested by paralysis of accommodation, dilated pupils, dryness of the skin and conjunctiva, cold hands and feet, numbness, with sensations of pins and needles, hypoacidity, diminished intestinal tone, constipation, exophthalmus, tachycardia, hypertension, urticaria and lowered carbohydrate tolerance."[3]

2. Jour. A. M. A., Dec. 18, 1915.
3. Fitch, W. E.—Dietotherapy, Vol. III, p. 306, D. Appleton & Co.
4. Fitch, W. E.—Dietotherapy, Vol. III, p. 306, D. Appleton & Co

Vagotonia[4] is the result of irritation of the vagus or pneumogastric nerve. It happens that the functions of the vagus are antagonistic to those of the sympathetic; hence, vagotonia is the opposite to sympatheticatonia: both of these conditions are closely allied with neurasthenia, and are unquestionably closely connected with disturbances of the glands of internal secretion.

Constitutional Symptoms.—The neurasthenic is an introspective individual who has lost a large part of his stamina. He has imaginary ailments for which there can be found no local or biological explanation. This class of patients believe they have malfunctions of certain organs or tissues, and think about their supposed ailments until their thoughts become an obsession; and their lives and actions are colored by self-suggestion. "The neurasthenic reacts to both exogenous and endogenous stimuli with more or less psychic disturbances, such as physical and mental hyperfatigability, decrease of capacity for concentration, memory defects, dysphoria, exaggerated affectivity and insomnia. The constitutional symptoms are manifold, and include headache, dizziness, insomnia, vestibular disturbances, cardiac palpitation, tachycardia, respiratory arhythmia, angina, hypertension, tendency to turn pale or blush readily."

History Taking Important

The patient's history should be taken with painstaking thoroughness, which also applies with equal emphasis to the mental and physical examination. This is often impracticable at a single office visit, as it entails much work, including the evaluation of laboratory reports, which cannot be considered at the first visit. Indeed, for a careful study of the patient it is best to have them under observation in a sanatorium for a week or ten days, during which time they can be thoroughly studied, and attention given to the various special examinations. If some minor physical ailment should be detected, involving some organ or organs, great care should be exercised in making even a tenative diagnosis or prognosis. An unguarded opinion, thoughtlessly expressed in the early stages of the case, may later be greatly deplored.

A Correct Diagnosis Essential

A "snap" diagnosis of a mild or moderate neurasthenic state should not be made. A thorough diagnostic study of both the physical

and psychical side should be made, going into not only the possibility of morbid anatomical changes, but also of the pathological physiology, abnormal psychology, and so far as possible the exact etiology. There is in every case some primary discoverable abnormal physical condition responsible for the etiology. Find it and direct your battery of treatment to *conquer* the cause.

Adaptability of the Physician

There is much truth in the saying that "a physician's success as a general practitioner depends largely upon his ability to successfully treat patients suffering from the neurasthenic state." Only those who are interested in neurology, who derive genuine satisfaction from the work of restoring such patients to health, and who do not become impatient with the vagaries of the functionally nervous, should assume the responsibilities of treatment of this class.

The practitioner who would make a success in this special field ought to be educated, refined, polished, sincere, honest, kind, firm, and able to adapt himself to circumstances. He should possess that quality of personal magnetism which inspires the confidence of the patient to make him "father confessor" to the innermost secrets of the patient's unhappy existence. When the plan of treatment has been decided upon, the physician should lay down definite, positive and accurate directions. Firmness, judicious sympathy, kindness, patience, and optimism are the attributes of success.

Requirements of the Nurse

Great care should be exercised in selecting a trained nurse to take care of a neurasthenic patient. First of all, she should possess the requisites similar to those just enumerated for the physician. She should possess that attribute of personal pulchritude to make her attractive and alluring; she should be cheerful, pleasing, and inspiring; absolutely cleanly, neat, patient, tactful, and, above all, have plenty of good common sense. The nurse should diligently avoid advancing any impression that the management of the case originates with her, but that the "discipline" and "rules and regulations" are the directions of the physician. Her attitude toward the patient should be that of friendliness and helpfulness: above all, the nurse herself should be free from any neurotic ailment, and she should be thoroughly healthy in body and mind. No matter how competent a nurse may be, when so intimately and continuously thrown together, mental boredom may result and a change would then be advantageous for both patient and nurse.

Treatment

Rest is now universally accepted as a therapeutic agent in the treatment of all patients suffering from neurasthenic states. Rest, mental or physical, or both, may be enjoined, or the rest may be partial or complete as the physician may deem advisable.

Beard, in his first communication on the subject, advised the value of rest as a therapeutic procedure. It remained, however, for S. Weir Mitchell to point out the real value of the "rest cure." *Partial rest*, from a few hours, to the major portion of the twenty-four hours in bed may be prescribed to suit the individual needs, and will be found most useful in the management of the milder types, as well as in ameliorating the condition of those who ought to take the rest, but feel that for economic reasons they cannot afford to leave off their employment. *Complete rest* means both mental and physical quietude, rest of mind and body, and means a prolonged stay in bed, with a nurse in constant attention to anticipate and attend the patient's every want and desire. In such cases, the patient is fed by the nurse, the patient not even being allowed to get up for urination or defecation. Complete rest means that all communication with the family and friends is stopped: the patient is not allowed to receive mail or read; in fact, unnecessary conversation is advised against. Absolute rest in bed (a) reduces the expenditure of physiological energy to a minimum and aids in restoring normal function in fatigued tissues; (b) it helps in establishing confidence in the physician's instructions and management of the case. Such rest is indicated in all patients who show marked exhaustion and extreme fatigue, irritability and emotional storms. The duration of the period of enforced rest is largely a matter for individualization.

Isolation, as with rest, may be partial or complete. The main idea is to separate the patient as far as possible from the family and friends, and from all sources of external irritation; it also serves to strengthen confidence

and give the physician entire control over the patient. Extremely irritable patients—hypertensive individuals—who are impressionable to all outside influences and stimuli and whose distorted perception and self-suggestion yield exaggerated reactions, are greatly benefited by temporary isolation. The separation from over-anxious and over-sympathetic friends and relatives is most advantageous to the patient; many of these neurasthenics feel that their ills and ailments are not understood by the family, and that they are neglected and sometimes abused. In some few cases isolation may be carried out in the home, but this is most difficult and better results can be accomplished in a well-ordered sanitorium.

Dietotherapy.—The dietetic treatment of neurasthenic conditions has received much discussion *pro* and *con;* many fanciful dietetic measures founded upon multitudinous ideas of the pathology of this ailment have been advanced. In prescribing a dietary for the neurasthenic, the following objects are desirable: (a) secure physiological rest of the alimentary canal: (b) adjust the ingestion of food to the underlying abnormalities of the metabolic processes, and (c) regulate definite gastrointestinal functions.

Barker[5] advises a restricted diet to secure digestive repose, and directs that milk in small quantities be given often, without other food, for days or weeks. "In cases of marked gastrointestinal atony, dilatation, and diminished gastric secretion, some care must be exercised in giving milk lest fluid further dilute an already impoverished gastric juice, favor gastric dilatation, cause diarrhoea or constipation, and really starve the patient. When gastrointestinal symptoms are absent, or of minor importance, except for anorexia, the gastric juice being normal, certainly no harm, but distinct benefit may be derived from a course of milk feeding."

Neurasthenia is always accompanied by impairment of the digestive function, and as a result, intesinal toxaemia from the absorption of intestinal putrefactive products is a factor to be taken under advisement. The digestion in this class of functional neurotics is peculiar in that it is not constant for any particular class or classes of foodstuffs. An article of diet which one day is digested with impunity may on another day produce violent digestive disturbance. Since the digestive functions are always feeble, it is best that any article of food that is allowed should be given in moderate amounts at any one meal. Foods which, though not indigestible, require a long time for digestion, should be omitted, such as pork, veal, corned beef, turkey, halibut, the various varieties of cured and smoked fish, cauliflower, carrots, beans, rich desserts, pastry, creamed soups. A piece of lamb, beef or chicken may be permitted once a day.

The neurasthenic is particularly prone to develop mental irritability, unhappy emotional states, and outbursts or attacks of anger and depression, often, from trivial and insufficient causes. Under such conditions, the digestion may be almost wholly upset and arrested, regardless of the kind and class of foods ingested. On the other hand, when the patient is amused, pleasurably interested, and enjoying himself and his environments, he will, practically enjoy and digest with impunity almost any variety of foodstuffs.

The Weir Mitchell Rest Cure.—There is a large and important and ever increasing group of "high strung," emotional women who receive much benefit from the Weir Mitchell method. The principal points in carrying out this method are isolation, massage, balneotherapy, and forced feeding. The isolation from friends, callers and the family exerts a beneficial and moral effect.

In discussing this subject six years ago, I said,[6] "The patient should be kept in bed for at least six weeks, leaving it only to go to the toilet. Mitchell recommends that the milk diet should be instituted gradually, especially if the patient has an aversion for milk. It should be given in doses of one or two ounces every two hours and gradually increased until as much as two quarts are drunk in the twenty-four hours. In some cases Mitchell recommends that the milk should be given even at night as often as every three or four hours. At the end of the tenth day an egg or chop should be eaten at noon in addition to the usual allowance of milk. Often earlier than this, Mitchell prescribes meat juice once or twice a day. A day or two later bread and butter are given and an egg or some meat at breakfast as well as at dinner. By degrees the patient is placed upon a diet of three simple but generous meals daily, and, in addition, three

5. Barker, Lewellys F.—Therapeusis of Internal Disease, Vol. IV, p. 537, D. Appleton & Co.

6. Fitch, W. E.—Dietotherapy, Vol. II, p. 549, D. Appleton & Co.

or four pints of milk are consumed, the latter being administered partly with the meals and partly between meals."

The following is a synopsis of the management of an individual case of Weir Mitchell's, and is appended to illustrate the practical application of his rest cure:

WEIR MITCHELL'S DIETARY.[7]

Mrs. C., kept in bed, fed by an attendant, rises only to relieve bladder and rectum.

First Day: One quart of milk in divided doses every three hours.

Second Day: Cup of coffee on awakening. Two quarts of milk in divided doses every two hours. Aloetic pill at night.

Third to Sixth Day: Same diet.

Seventh, Eighth and Ninth Days: Same diet, with a pint of raw soup in three portions. This is made by chopping up one pound of raw beef and placing it in a bottle with a pint of water and five drops of strong hydrochloric acid. The mixture stands in ice all night; in the morning the bottle is put into a pan of water at 110° F., and kept two hours at about that temperature. This mixture is then thrown into a stout cloth and strained until the mass that remains in nearly dry. If the raw state proves very objectionable, the beef to be used is first quickly broiled on one side and then the process is completed in the manner previously described.

Tenth Day: 7:00 A. M., coffee; 7:30 A. M., 10:00 A. M., 12 M., 2:00, 4:00, 6:00, 8:00, 10:00 P. M., half a pint of milk; 11:00 A. M, 5:00 and 9:00 P. M., soup.

Fourteenth Day: Eggs, and bread and butter added.

Sixteenth Day: Dinner added, and iron.

Nineteenth Day: The entire diet was as follows: 7:00 A. M., coffee; breakfast, 8:00 A. M., iron and malt extract, chop, bread and butter, a tumbler and a half of milk; lunch, 11:00 A. M., soup; dinner, 2:00 P. M., anything liked, with six ounces of Burgundy or dry champagne, and at the end one or two tumblers of milk; iron and malt; tea, 4:00 P. M., soup; supper, 7:00 P. M., malt, iron, bread and butter, usually some fruit, and two glasses of milk; late supper, 9:00 P. M, soup; 10:00 P. M., aloetic pill. At 12:00 noon, massage for an hour. At 4:30 P. M., electricity applied for an hour.

Sixth Week: Soup and wine were dropped, iron lessened one-half; massage and electricity only on alternate days; 1/30 of a grain of strychnin sulphate thrice a day at meals (continued for several months).

Ninth Week: Milk reduced to a quart. All mechanical treatment discontinued.

Result: Gain in flesh about face in second week. Weight rose in two months from 96 to 136 pounds; gain in color equally marked. On thirtieth day patient had normal catamenial flow after five years of failure to menstruate. Ninth week, drove out. Cure complete and permanent.

In milder types of neurasthenia, partial rest, diet and diversion is recommended; such a schedule should be outlined so as to fill and occupy most of the patient's waking hours. The one described by Dr. M. Allen Starr is very satisfactory, with slight changes to suit the individual patient.

SAMPLE SCHEDULE FOR PARTIAL REST CURE (M. ALLEN STARR).

8:00 A. M—Small cup of coffee, with hot milk; or black coffee, if preferred. Bedford magnesia or Hunyadi water.

8:15 A. M.—Morning toilet.

8:30 to 9:00 A. M.—Breakfast: Fruit, cereal with cream, eggs, bacon or fish, hot milk or cocoa.

9:00 to 10:00 A. M.—Rest, letters read by nurse, or patient; after 9:30, glass of water.

10:30 to 11:00 A. M.—Bath; large bath towel under patient; blanket over patient. Nurse to bathe each part with soap and tepid water, or give patient a salt rub or pack in place of bath with salt water affusion.

11:00 to 11:30 A. M.—Glass of milk or kumyss, or hot broth, or cocoa. Rest.

11:30 A. M.—Get up and dress for the day.

12:00 M.—Drive or walk.

1:30 P. M.—Lunch: Soup, steak or chops, with vegetables; salad, baked apple or fruit.

2:00 to 3:00 P. M.—Rest quietly, lying down, relaxed, but not undressed, glass of water.

3:00 to 4:00 P. M.—Walk, drive, or see friends. Glass of milk or beef tea; undress.

5:00 P. M.—Massage, at first gentle, later Swedish movements, or wet sheet pack, or physical culture exercises.

6:00 to 6:30 P M.—Rest, alone, lying down.

6:30 P. M.—Dress for dinner. Glass of water.

7:00 to 8:00 P. M.—Dinner: Oysters, soup, fish, game or chicken, vegetables of any kind, salad, cheese, or fruit. No wine or coffee.

8:00 to 8:30 P. M.—Rest.

8:30 to 10:00 P. M.—Reading, or games.

10:00 P. M—Bed, preceded by spinal douche, or drip sheet. Cascara tablet, or 5 minims (0.31 c.c.) of fluid extract; glass of hot milk, without or with trional, as required.

Crounotherapy.—Since *toxic* influences exert a distinctly unfavorable provactive etiological influence on neurasthenia, it is all important to combat them. In all cases where there is constipation, intestinal toxaemia, intestinal putrefaction, focal infection, fatigue, headache, insomnia vagotonia, sympatheticotonia and hepatic insufficiency, it will be necessary to stimulate the hepatic functions and secure free elimination through the bowels and bladder. Successful *detoxication* and elimination are most essential and can be secured through the administration of a natural sodic, magnesic, sulphated mineral water, such as the Bedford Magnesia water (taken hot). This is far preferable to ordering such drugs as cascara, aloin, jalap, ox-gall, etc. Sajous, of Philadelphia, recommends sending such patients to suitable spas for an annual *detoxication.* Of course, physical therapy is always advantageous, as carried out in all well regulated sanitoria.

Drug Treatment.—Strychnine is the best of the tonic drugs, but to secure the maximum

7. Dietctherapy, Vol. II, p. 549, D. Appleton & Co.

benefit it must be prescribed in the largest dosage the patient will bear, which is an excess of the dosage usually given of 0.002 or 0.003 gram (1/30 to 1/20 grain) a day. Sajous says, "Give as much as 0.006 to 0.009 grams (1/10 to 1/7 grain) daily until the maximum of tolerance is shown by manifestations of the 'physiological limit,' which is slight inebriation and stiffness of the legs." Rapid habituation of the drug occurs, so it is necessary to progressively increase dosage, and since the drug is eliminated in about four hours, it can be administered about three times daily; other tonic remedies may be combined with strychnia. There is every advantage of giving iron and sodium cacodylate hypodermically. Other drugs, as much for suggestion as for therapeutic action, are valerian, sumbul, belladonna, amyl valerate, and such hypnotics as barbital and carbromal usually form the requirements of drug treatment.

Massage is a valuable adjunct to the full "rest treatment," and may be general or local, as the physician may desire, to exert soothing or stimulating effects. In its milder form of application, massage "produces a distinctly soothing effect upon the central nervous system, stimulates the flow of blood and lymph, furnishes gentle exercise to the musculature, stimulates cutaneous activity, causes increase of the red blood cells, and produces decided physical reactions." After the patient begins to gain in weight, more vigorous massage may be employed, and stimulating gymnastics or Swedish movements may be used.

Balneotherapy.—Thompson[8] advocates treatment at spas where general hydrotherapeutic methods are available. He advises the application of the Scotch douche four to five minutes, alternating with hot and cold. If the patient is too weak for the Scotch douche, a cold wet pack is soothing and, applied at night, often is sufficient to overcome insomnia. Osler[9] advocates the use of the wet pack in sleeplessness, saying, "it is the best remedy in insomnia." In the hydriatic treatment of the neurasthenic states, the mildest balneotherapeutic measures are, as a rule, the best. Osler, Hinsdale, Barker, Pope, Baruch, and others warn against the use of violent stimuli, such as very cold, very hot, or the prolonged applications of either, as well, also as against vigorous friction, which may produce marked depression or even shock.

Soothing Balneotherapy.—Tepid or warm sponge baths, 95°F. (35°C.), applied from head to foot, exert a soothing effect. Dry the patient without much friction, and follow with an alcohol rub. The full tube bath at 90°F. (32.2°C.), may be given instead, duration from five to ten minutes, followed by gentle friction and a warm dressing gown. If patient shivers, shorten duration of bath. A warmer bath may be given next morning. The wet pack first stimulates and then sedates; the stimulation is only temporary, being followed in a few moments by its soothing effect. The bed is prepared with a rubber sheet, over which is spread a dry double blanket; a sheet soaked in water at 85°F. (29.4°C.), is laid over the blanket. The patient, disrobed, is placed upon the wet sheet and completely enveloped in it; it is snugly fitted to his skin so as not to have air spaces between the legs, nor around the arms and arm-pits, as this would cause chilliness, which should be avoided. A warm dry double blanket is now wrapped snugly around the wet sheet from the patient's feet to his neck, and a couple of dry blankets thrown over the patient. A hot water bottle is placed at the patient's feet, and a towel squeezed out of water at 95°F. (35°C.) is placed around the head. Duration of the pack is twenty to thirty minutes. The drip sheet bath is given with patient standing in a tub containing just sufficient water at 100°F. (37.8°C.) to reach the ankles; a dripping sheet taken from water at 80°F. (26.7°C.) is then shrouded around the patient and brisk friction over the sheet is applied. The nurse manipulates at the back while the patient rubs his chest and abdomen; the duration of this is two minutes, followed by a dry sheet friction as before. The patient is then hurriedly and briskly rubbed with warm towels and put to bed. This is given mornings and evenings.

The usual prescription at the Bedford Baths is: Electric cabinet bath almost to point of perspiration; then the circular douche, 95°F. (35°C.), one-half to one minute; this is followed by the fan douche, 75°F. (23.9°C.), twenty pounds pressure, five to ten seconds.

8. Thompson, W. Gilman—Practice of Medicine, D. Appleton & Co.
9. Osler, Sir William—Practice of Medicine, Lea & Febiger.

Nothing's ever lost by trying;
Nothing's ever gained by sighing.
—*Selected.*

President's Message

Physicians' Liability Insurance.

Some years ago, in an attempt to give more service to its members, the Medical Society of Virginia agreed to put aside one dollar out of each man's dues, and for that amount to be ready to furnish legal defense in all malpractice suits. I personally do not see how the Society ever expected to be able to furnish this service for this small amount, as the dollars a year segregated for this purpose would total less than $1,800.00. Under the plan we adopted it was agreed to pay a maximum of $300.00 for each case, and the lawyers naturally found it possible to get this maximum in most cases. At this rate it is apparent that we could only furnish legal defense for six men a year out of our whole membership in the State. On the other side, upon investigation I have found there had been an average of six suits during each of the last three years brought against the members of the Norfolk County Medical Society, which would have more than used up the total amount at the disposal of the State Society had these men not personally carried liability insurance.

The truth of the matter is that claims for damages against physicians are increasing, and increasing rapidly, as there seem to be many people who think it better to attempt to get money out of their doctors rather than pay the doctors' fees and this does not seem to depend at all upon the success or quality of the services rendered. As a result the Medical Society of Virginia found that it could not possibly render the service desired for a dollar a year and had to stop furnishing legal defense for such claims after the 31st of December, 1928. The Medical Society of Virginia is exceedingly sorry to have to take this step, but the Society would have soon been bankrupt if it had continued to furnish $300.00 for each case for legal defense.

The doctors practicing in the cities have for years protected themselves by taking out insurance to furnish them legal defense and pay damages in suits for malpractice. Certain insurance companies have gone into the business of furnishing this protection, which will cost the individual man $15.00 a year for a policy covering legal defense and when necessary a maximum of five thousand dollars for damages in one case, with a total of fifteen thousand dollars a year. Indeed many men are taking our policies with larger limits, as a doctor is now considered to be an easy source for ill-gotten gain, both by certain patients and by some more or less irresponsible lawyers.

The insurance companies, however, will give a reduced rate to medical societies provided a sufficient number of the members of such organizations make application for this insurance. Mr. Winfrey at our Society's office in Richmond took up this question a few years ago and one company offered the members of the Medical Society of Virginia a rate of $12.50 for such a policy, provided 1,001 members take the insurance. This does not mean that that many new policies will have to be gotten, as 750 of our members are already insured in that company. (I hope, however, no one will think I am writing as the agent for this company for I am merely trying to set forth the growing necessity for Malpractice Insurance.)

I feel that it is really absolutely necessary in these changing times for medical men to carry Malpractice Insurance just as we practically all carry fire insurance on our houses, as the danger of malpractice suits is apparently fast becoming as great as the danger of fire. Insurance is merely a form of cooperation in which each person puts in a certain small amount, forming a club for the benefit of those who get into trouble. A regular company can take care of such business more efficiently and economically than a local group or society, and for that reason we use such companies for our fire insurance. It will save us money to get a group insurance policy through our Medical Society, but the main point is that a doctor now really cannot afford to be without some Malpractice Insurance, as suits are being brought for the most trivial and impossible matters, and no doctor is at present safe from the peril and annoyance which come from such suits.

CHARLES R. GRANDY, M. D.,
President, Medical Society of Virginia.

XUM

Department of Clinical Education

OF THE MEDICAL SOCIETY OF VIRGINIA

Continuation Education for Practitioners.

It cannot be considered improper nor boastful for the Medical Society of Virginia to take just pride in its Continuation Educational work for its members. It would be as absurd, as it would be untrue, to believe that all of the present increased interest in after-graduation education, could be attributed to the work of its Clinical Education Department, but nevertheless, it is confidently believed that this work has been a great incentive in calling the attention of the constituent member societies to the necessity of keeping their individual members in step and in professional thought with modern advances.

This is the day for the establishment of "Priorities," and our State Society certainly has the enviable distinction of having been among the first of the medical groups in the United States, and the first State Medical Society in the South to inaugurate this work, and it is with great pleasure that it is noted that similar interest is being manifested now in our Southern States by the physicians through their State Medical Societies.

The South Carolina Medical Association has just held a successful clinical week at the Medical College of South Carolina in Charleston.

The Medical Association of Georgia has likewise put on a program of a week of Post-Graduate Medical instruction, the State Board of Health, the Extension Division of the University of Georgia, the Medical Department of the University of Georgia, and the Emory University, School of Medicine, cooperating.

Arrangements have been made for Post-Graduate courses at Cordele, Bainbridge, Rome, Lagrange, Waycross and Cornelia. At each of these cities, the program noted below will be followed:

"MONDAY—*Diagnosis and Care of the Tuberculous*—Dr. E. W. Glidden, Superintendent State Tuberculosis Sanatorium.

Mental Hygiene—Mr. Austin E. Edwards, Professor of Psychiatry, University of Georgia.

TUESDAY—*Diseases of Children*—Dr. W. A. Mulherin, Professor of Pediatrics, University of Georgia.

WEDNESDAY—*Pneumonia, Chronic Abdominal Conditions, Diabetes Mellitus*—Dr. Cyrus W. Strickler, Professor of Medicine, Emory University.

THURSDAY—*Cardio-Renal Vascular Diseases*—Dr. E. E. Murphy, Professor of Internal Medicine, University of Georgia.

FRIDAY—*Our Mental Defective Problems*—Dr. John W. Oden, Superintendent Training School Mental Defectives, Gracewood, Augusta, Georgia.

Your Laboratory and How to Use It—Mr. T. F. Sellers, Director of Laboratory, State Board of Health.

Diagnostic Clinics each day. Bring your cases."

The Emory Medical Alumni Clinic Week was held in Atlanta, June 9-13, inclusive.

At the last annual meeting of the Southern Medical Association, a committee, with Dr. John H. Musser, Department of Medicine, Tulane University, New Orleans, as Chairman, was appointed to consider the feasibility of the Association sponsoring Post-Graduate education in the larger cities of the South under the direction of some prominent teacher, and continuing from four to six weeks in each city selected.

All of these evidences of increased interest in professional education, and others that might be noted, are really noteworthy, and should be heartening to the profession of Virginia, which is pleased to have been one of the prime movers in this great and needed educational work for the profession.

It may now be the time to say that the present work and the future hope of the Department of Clinical Education for Virginia is ultimately all directed toward the realization of a vision that seems to be materializing, because of awakened professional interest, and that is in brief, that the Commonwealth of Virginia, at the request, and with the aid and cooperation of the Medical Society of Virginia, shall sponsor a movement whereby each year, the University of Virginia and the Medical College of Virginia, together with a selected local faculty, shall provide at least a four weeks' Clinical and Educational extension course at four selected centers

throughout the State, thus giving every doctor who has the ambition to perfect himself in his profession, the opportunity to do so.

This is no idle dream, unworthy or impossible of realization, for its accomplishment will be the only answer to the slow but silent encroachments of State and social medicine, as well as an increasing mortality list in certain diseases in certain sections.

In educational matters, our State has been ever kind to its youth, but the day has now come when it must and will have to look to the continued education of its physicians, and the resultant continued good health of its citizens, so that our mortality lists in no disease shall shock or alarm a critical competitor.

The doctors, as a class, are willing to do their part—let the citizens highly resolve to demand that they shall be aided in their humanitarian and professional endeavors.

"The half of knowledge is to know where to obtain knowledge."

Scheduled Meetings

——On August 12th, at 8:00 P. M., at the home of Dr. W. O. Bailey, Secretary, Aldie, Virginia, the Loudoun County Medical Society will hold a meeting with Dr. Chas. R. Grandy as principal speaker. Dr. G. F. Simpson, Purcellville, is President of this Society.

——In September, the Clinch Valley Medical Society, Dr. J. B. Wolfe, Coeburn, President, will hold its Fall meeting.

——On Tuesday, September 30th, beginning at 2:00 P. M., a clinical meeting will be held at the time of the dedication of the new Medical Arts Building in Petersburg, under the auspices of the Post-Graduate Medical Society, Dr. Joel Crawford, Yale, President.

——On October 2nd, 3rd, and 4th, the University of Virginia will give a course of Post-Graduate clinics.

——On Tuesday, November 18th, beginning at 2:00 P. M., a clinical and scientific meeting will be held at Burkeville with Dr. W. H. Venable, Superintendent and Medical Director of the Piedmont Sanatorium, and the Post-Graduate Medical Society, cooperating.

Information

All members of the State Society are requested to write for any information desired on any subject relative to these Extension Courses in Graduate Medical Education, either to the Acting Executive Secretary, Mr. George W. Eutsler, P. O. Box 707, University, Va., or to the Chairman of the Department of Clinical Education, 5 East Franklin Street, Richmond, Va.

Miscellaneous

Crippled Children's Work in Virginia—Proposal of a Plan.*

By THOMAS F. WHEELDON, M. D., Richmond, Va.

Introduction

The following information and ideas are based upon a study of this work with its practical application over a period of seven years in the conduction of orthopedic clinics.

The conduction of these clinics has brought about a most pleasant coordination with medical, educational and social agencies and has proven that, under an efficient plan, based on the crippled child as a unit, the various agencies will work in harmony toward the accomplishment of one aim. That aim is as follows:

That no plan for the care of the crippled children is complete nor can successfully gain its purpose unless the crippled child is accepted as a responsibility from the time he is found until he is physically rehabilitated, educated or trained in a vocation and placed in employment whereby he at least must be made self-sustaining and in a position to care for members of his family as soon as possible.

It is further emphasized that no plan can be successful that does not provide a system whereby the child, once having become registered, will not be lost sight of until he has completed the above through consistent, painstaking follow-up care, though that may require the rest of his life.

History

It had been my good fortune to have been studying the methods of the care of the crippled child in the northern centers and western centers and in the south for several years when by coincidence, one day in November, 1922, ten indigent children were brought to my office by ten different agencies operating individually from one locality in the state. On that particular afternoon, in addition to the children, at least an equal number of adults were present and it occurred to me how futile it was to expect through the long years to come that

*Submitted to Commission on Under-Privileged Child Work. Senator E. L. Kendig, Chairman, Mr. Frank Bane, Secretary.

XUM

the interest that prevailed that afternoon, would unabatingly continue to see that these children were brought regularly over this long distance for treatment and it occurred to me at the same time how easy it would have been for me, one individual, to have gone to that locality of a hundred miles distance and to have seen these same children in a convenient place, thereby not only saving the expense and trouble of transporting these children to my office, but also possibly seeing, at the same time, many others who were not fortunate enough to have been provided the necessary means of getting to an orthopedic surgeon.

Ways and means were investigated at that time and through the State Department of Rehabilitation it was decided to have a demonstration clinic held and South Boston was chosen as the point for holding this. At that time, no other agencies except the Rehabilitation Department and myself were involved.

A field worker was sent to Halifax County and out of a population of something over thirty thousand, by thorough investigation, thirty-three crippled children were found. By everyone in that community, it was felt that this was the total number of crippled children that needed treatment.

On the 26th of January, 1923, a clinic was held in South Boston and, of the thirty-three crippled children found, twenty-three came to the clinic, although there was a blizzard raging on that day. (I bring out the fact that a blizzard was raging on that day to show that the patients will come to a clinic if it is held in their own locality, even though they have to experience inconvenience.)

Several members of the local Kiwanis Club of South Boston were present and they had helped actively in getting some of these children to the clinic and, quite spontaneously, these men saw that, in order to have proper treatment, it would be necessary to arrange for an organization in that locality to see that this was done. As a result it was decided that this clinic would be made a permanent one under the sponsorship of the Kiwanis Club of South Boston and that it be held monthly. The clinic has been held monthly ever since.

Of the twenty-three original cases brought to the clinic, everyone at present is either going to school or has completed his education or training and is now doing his part in the community. Since that time the clinic has grown to something over eight hundred individual cases in which a separate, permanent record of each case is held.

Since that time clinics have been established and conducted by me regularly in Danville, South Boston, Chase City, Victoria, Emporia, Lawrenceville, Courtland, Hopewell, Petersburg, and Richmond. At present the average monthly attendance at these clinics amounts to about five hundred separate individual cases. The total individual separate cases under treatment in these clinics amount to about three thousand and five hundred. The expenditure for the care of these cases has amounted to about $40,000 per year. This has been provided through various sources but does not include any money received from the state.

Method of Operation

In the establishment of a clinic a census is made and centers picked out on the following points:

1. Number of cripples known and available for treatment to start with.
2. Accessibility of the point, based on roads, bus lines, railroad, etc.
3. Support of a definite local organization to sponsor the work.
4. Presence of cooperating agencies in finding and stimulating the crippled to come to the clinic, conduction of the clinic and following up the work of the clinic.

After a clinic is established, cases are brought to the clinic by various agencies whether they may be interested individuals, parents, religious organizations, etc., and cases are examined there. At the clinic, necessary equipment is, as a rule, provided by the sponsoring agencies and housed in suitable rooms, usually necessitating a waiting room, one or two examining rooms, and a treatment room.

Upon entering the clinic a full medical history is taken of the patient and a record filled out as to the financial standing of the patient. This information is gotten from the patient himself. The card carrying this informaion is then turned over to a committee and the worthiness of the case is passed on by this committee at the first visit and signed by responsible parties in that locality. Examination is then made of the patient and the orthopedic treatment laid out. If the case is to be hospitalized, arrangement is made for this case to be sent to the hospital and operated upon and sent back to the community under the supervision of his local physician as soon as

possible, transportation being in the meantime provided.

As only about one-tenth of the cases need to go to the hospital, this leaves nine-tenths which will receive their treatment in a clinic which may consist of procedures from corrective exercises and muscle training given by a physiotherapist, to the application of braces or plaster casts. The work in the next clinic will then consist of the examination of the new cases, further examination of old cases, treatment given in the clinic, and the observation and further laying out of treatment for cases that have been to the hospital.

After a period of time, certain cases will be able to be taking on new activities in life so that during the treatment immediate vocational guidance is instituted and plans are made whereby the patient, as soon as possible, is lined up either to continue his school work, to enter school if he has not been there before, to enter training for a trade if he has sufficient education and cannot return to school, and to be given advanced education where possible. At the same time various leaders are thrown out looking forward to the time when these individuals will need a position and various possibilities of employment collected.

In this way a full follow-up of each case as a unit is accomplished, and already over a period of only seven years we now have at least five hundred individuals who are self-supporting, active adult citizens of the community. As time goes on, of course, we are continually adding to this number. At the same time the treatment of all the other cases is being carried on, nor are the cases that are now self-supporting dropped, as we find that continued follow-up of them gives better results from a physical point of view and also keeps them interested in making a success in life. This then would explain the physical, social and educational care and development of the case.

Along with the clinics there are many advantages to be derived which have arisen incidentally: First; each clinic really becomes a health educational center and from it has radiated information whereby hundreds of cases have been referred to other clinics or physicians for the care of conditions which would otherwise have been neglected.

I give, for example, the care of tonsils, teeth, congenital deformities such as cleft palate, etc. Second, the cases that come to the clinic become familiar with the fact that something is really being done to help them and it makes it easier really to accomplish it with the other people that come in contact with them. I find it easier to put over a health program in communities where orthopedic clinics are held due to their appeal to the public. Third, there is a great social benefit from these clinics in that many people are brought in contact with various phases of life, who otherwise would be in ignorance of such things. We have noted, for instance, that children who first come to the clinic are soiled and unkempt and as time goes on improve their appearance and demeanor at the clinic, due to their contact with other cases and their desire and pride to make a splendid showing.

We have not found it difficult to obtain the cooperation of existing agencies in this work and one of the most important factors has been the almost unlimited assistance from the local physicians.

Decentralization Versus Centralization

From the foregoing plan it would readily appear that it is much more efficient to take care of cases in the local community than to attempt to send all cases to a central hospital. It is, of course, understood that a central hospital of a limited size should be provided for the care of cases needing long hospitalization, but as these cases are very much in the minority, no extravagantly large hospital seems necessary. In addition to this, sufficient teaching facilities for the medical students are desirable, but a hospital of the sort above described would easily take care of this.

I advance the following reasons why it is more efficient to attempt a plan as described for the provision of clinics in the localities than to expect to provide a hospital to take care of all these cases.

1. For every thousand children that come to a clinic, only about one hundred need to go to a central hospital.

2. If hospitalization is arranged for all cases possible at the hospital near the local clinic, practically all of these cases can be hospitalized. Where, if cases must be sent some distance to a central hospital, it is found that only about twenty-five of the hundred go. In other words, if only a central hospital is furnished, for every thousand children that can be taken care of at the clinic, only about

XUM

twenty-five can be taken care of if they must be sent to a central hospital.

3. It is more economical to care for crippled children in localities because the hospitalization which may extend over a period of several weeks in a central hospital can be reduced to a period of several days in a local hospital because of the after care which may be continued in their homes. In addition to this, the expense of transportation is eliminated not only for the patient but also for the companion who must accompany the child to the hospital and go for him when he is ready to go home.

4. A child is kept under his own environment at home if cared for through the local clinic and does not become estranged from his family. He is also cared for under conditions which he is used to and is not made to feel "out of part" so to speak. This frequently occurs in patients sent to the hospital over a period of time and they are never quite satisfied thereafter under the same condition at home as before he left.

5. The interest of the local doctors is increased and their cooperation secured by having the work in the local clinics.

6. The interest of the local agencies is magnified in an inestimable manner by having the members actually see the work go on.

7. The situation of having children sent to the hospital and left there is eliminated by having the clinic at home. This has occurred in several instances and it has become impossible to return the children to their own localities, they becoming definite state wards from that time on.

8. An orthopedic surgeon is furnished to the locality which would otherwise not be available.

9. The education of the children can be carried on through the local institutions and frequently the time lost from school is so short that the child makes it up with no difficulty.

10. Cases accepted through the clinic receive support from various people in the locality to such an extent that when they have completed their education and their treatment, they are given jobs that they can perform. It is easily seen that no one locality surrounding a central hospital could consume and supply jobs for the output of all the crippled children of the state even though it be a town of several hundred thousand.

An orthopedic hospital is essentially a surgical hospital and is very expensive to operate and unless some active treatment is being conducted in a case, it is a waste of money to allow the case to remain in the hospital simply for observation or for treatment that could be carried on equally well or better in their own locality. Neither should the hospital be a boarding home for crippled children, as the expense of the initial outlay and upkeep of such an institution is far in excess of that necessary for the care of such children.

Plan

I would propose that plans be adopted for the care of the crippled child in the State of Virginia, that would make the crippled child the unit of endeavor. I would establish primarily clinics over the state for these cases. As each case comes to the clinic, I would suggest that a thorough investigation of the case be made and, after due investigation, the worthy cases be accepted for treatment under the sponsorship of the state. I would then provide for these children, necessary orthopedic equipment, hospitalization where necessary, in their own localities if possible, follow-up care, education, vocational guidance, training and placement in employment. This would establish a program whereby each case would be carried from beginning to completion, though it might necessitate the observation of this case for many years to come. The child once having been accepted. however, would then be followed through by the same organization.

In such a plan all cases would be referred to the orthopedic surgeon who conducted the clinic in that locality for examination and turned over to him for treatment.

Should a case necessitate hospitalization at a central hospital, the case would be returned to him on discharge from that hospital to his complete care, providing at the same time that if the surgeon is in residence in the location of the central hospital, he be allowed to conduct the care of his case in the hospital. In this way the treatment would be his responsibility from beginning to end. I should also provide that, in the event a case was sent to a central hospital direct, before accepting the case the orthopedic surgeon of the locality be apprised of this fact and that he be allowed to be kept informed as to the procedures at the hospital until it be turned over to him

again at the clinic in the locality from which the child came, insofar as our experience with these cases will enable us to draw a decision.

I would feel that the Board of Public Welfare would be the department to act in heading up such an organization. As the state has been allocated in divisions and each orthopedic surgeon in the state has his division already allotted to him, and has been working in this field, this is a matter that has already been adjusted.

It is Worth What it Costs.*

By HERBERT L. WILLETT, Jr., Washington, D. C.
Associate Director, Gorgas Memorial Institute.

I have just had my annual health audit and because people constantly ask what that means I am going to use myself as an illustration. This is what happened.

I walked into the office for my appointment and gave the doctor my health audit blank, carefully filled out. That included such matters as diet, sleep, exercise, weight, habits—the things he needed to know in order to get an adequate picture of me. There was just one special "symptom" I wanted to talk about, an occasional lameness. The doctor made a note of it.

Then I discarded some clothes, lay down on the table. Eyes, teeth, sinuses, ears, throat, lungs, heart—he looked and listened and tapped from top to toe, dictating comments to his secretary. The lameness came in for a good deal of study of how I could bend and twist. Blood pressure, pulse, blood count, urine analysis. Everything was carefully recorded.

By the time I was dressed the reports were typed and on his desk—the health blank, what I had told him, what he had found, what the laboratory tests showed. Then he analyzed them.

"Internally sound, no further tests needed. Now about your diet. You'd better—" just a few simple suggestions. "You don't exercise enough"—and a few more suggestions. "About your lameness. I'm going to let it go a month. If it troubles you again I will have it X-rayed. But no use incurring that expense unless we have to. Just—" and again a simple explanation of muscles and their care.

Then came the remark that struck me most. "After I've examined you a few times I'll know something about you. Diagnosis on a practical stranger (I only recently moved to Washington and met him) is always difficult. Next year and the next we'll compare your report with this year's. In the meantime watch the diet and exercise, and call me if anything ever seems to be wrong."

It took me only ninety-five minutes and now I *know* that I am still in good shape (yesterday I only thought and hoped so); I know a man to whom to turn in an emergency; I understand better why doctors sometimes hesitate to take responsibility for sick people who are strangers; I know I shall go back next year because the more I see of these health audits the clearer it becomes that it saves time, trouble and money to have bad symptoms detected before they become chronic or dangerous.

*One of a series of articles prepared under the direction of the Gorgas Memorial Institute, which was organized to perpetuate the life work of the late Major-General Gorgas in preventing unnecessary illness. Head uarters of the in titute are at 1331 G Street, N. W., Washington, D. C.

Mental Hygiene as Looked Upon by Some Leading Physicians at the Recent International Congress on Mental Hygiene, Washington, D. C.

Dr. Ralph Noble, a distinguished mental hygienist of Australia, says that "mental hygiene promises to be the greatest field of preventive medicine. It is a biological and social science which has already extended beyond the fields of psychiatry and the abnormal, and is now devoting its main attention to the normal, in order to prevent maladjustments rather than treat their results."

Dr. James R. Angell, President of Yale University, characterized mental hygiene as "a great positive social force" and said that he had been "more and more impressed by its widening recognition of the inevitably and fundamentally social implications of its program." "It may change its name," he continued, "it may inspire the creation of other related movements which ultimately may absorb much of its field; but whatever the designations applied to it, or to its successors, it has before it as its great and most significant contribution a program of positive health as wide as society itself. It is fundamentally an educational project and must work by educational methods."

"The field of mental hygiene," says Dr. Genil-Perrin, a leading authority on mental disease, of France, "ought to embrace all the manifestations of human activity. When man

XUM

acts, it is his mind that works. He can act correctly only if his mind is sound. In assuring the mental health of the community, mental hygiene will assure the advance of humanity. Mental hygiene is at present largely in the domain of psychiatry, but it will come to exceed more and more the limits of psychiatry, and eventually become the basis of all ethics."

W. F. D.

Proceedings of Societies

The Virginia State Board of Medical Examiners,

At its regular semi-annual session in Richmond, June 17th-20th, granted certificates to practice in Virginia to the following alphabetically arranged list of 115 doctors. Of these, 53 were graduates of the Medical College of Virginia and 40 graduates of the University of Virginia, Department of Medicine:

Dr. Walter Johnson Allegree, University, Va.
Dr. Walter Edward Beattie, Alexandria, Va.
Dr. Erwin Saul Berlin, Norfolk, Va.
Dr. James Blaine Blayton, Washington, D. C.
Dr. Henry Reid Bourne, Charlottesville, Va.
Dr. DeRuyter Butler, Washington, D. C.
Dr. Wilbert Enoch Butler, Richmond, Va.
Dr. Calvin Howard Cain, Richmond, Va.
Dr. Henry Lynn Colvin, Washington, D. C.
Dr. James Glenn Cox, Dugspur, Va.
Dr. John Randolph Copenhaver, Marion, Va.
Dr. Clyde Crawford, Atlanta, Ga.
Dr. John Wyatt David, Jr., Richmond, Va.
Dr. Clement H. Davidson, Washington, D. C.
Dr. Richard Edgar Dunkley, Stuart, Va.
Dr. John Randolph Eggleston, Baltimore, Md.
Dr. Ernest Scott Elliott, Independence, Va.
Dr. Joseph Helms Farroe, Roanoke, Va.
Dr. Frederick Oliver Fay, Richmond, Va.
Dr. Enoch Raymond Fenton, Hinton, W. Va.
Dr. Eugene Beverly Ferris, Jr., University, Va.
Dr. William M. T. Forrester, Richmond, Va.
Dr. Kester St. C. Freeman, Hanover, Va.
Dr. Louise Fry Galvin, Richmond, Va.
Dr. William M. Gammon, Bristol, Va.-Tenn.
Dr. Thomas Lorimer Gemmill, Richmond, Va.
Dr. John Henry Gilligan, Clifton Springs, N. Y.
Dr. Edwin Foster Gouldman, Westmoreland Co., Va.
Dr. George Tayloe Gwathmey, Jr., University, Va.
Dr. James Lawrence Hager, Washington, D. C.
Dr. David Lemuel Harrell, Suffolk, Va.
Dr. Paul Swanson Hill, Wise, Va.
Dr. Joseph Raymond B. Hutchinson, Washington, D. C.
Dr. Robert Samuel Jacobs, Norfolk, Va.
Dr. Simon Noe James, Washington, D. C.
Dr. Thornton Seymour Jennings, Philadelphia, Pa.
Dr. William Guy Justis, Abingdon, Va.
Dr. Paul Kells, University, Va.
Dr. Paul Dorsey Ketchum, Wayne, W. Va.
Dr. James Peter King, University, Va.
Dr. Marion Kirwan King, Haynesville, Va.
Dr. Ben Halsey Knight, Richmond, Va.
Dr. Southgate Leigh, Jr., Norfolk, Va.
Dr. Archibald A. Little, Jr., Meridian, Miss.
Dr. Theodore R. Lovelace, Danville, Va.
Dr. Paul Rutherford MacFadyen, Jr., Colony, Va.
Dr. Ulus Walter Massie, Montvale, Va.
Dr. Alexander Taylor Mayo, University, Va.
Dr. Harold Hiques McLemore, Norton, Va.
Dr. Marsh McCall, Richmond, Va.
Dr. Walter Silas L. McMann. Richmond, Va.
Dr. John Thorpe Metcalf, Richmond, Va.
Dr. Maurice Albert Michael, Philadelphia, Pa.
Dr. Elbert Terrill Montgomery, Richmond, Va.
Dr. Earl Harrell Moody, St. Charles, Va.
Dr. Elmer Richard Moorman, Winston-Salem, N. C.
Dr. Heber Jones Morton, Keysville, Va.
Dr. Frederick McC. Morrison, University, Va.
Dr. Leslie Emerson Morrissette, Richmond. Va.
Dr. John Ryan Myers, University, Va.
Dr. Sigmund Newman, Richmond, Va.
Dr. Richard B. Nicholls, Newport News, Va.
Dr. Nathan William Newman, Richmond, Va.
Dr. Zenas Barnard Noon, Richmond, Va.
Dr. Robert Edwin Odom, Norfolk, Va.
Dr. Herman Frank Oppleman, Richmond, Va.
Dr. Edward Stewart Orgain, Richmond, Va.
Dr. Mercer Cranor Parrott, Portsmouth, Va.
Dr. John Edward Payne, Clarendon, Va.
Dr. John Day Peake, Rockymount, Va.
Dr. James Brooke Pettis, Richmond, Va.
Dr. Prosser Harrison Picot, Richmond, Va.
Dr. Daniel Brown Pierson, Jr., Narberth, Pa.
Dr. Alfred Wayland Pinkerton, Bayonne, N. J.
Dr. Morton Morris Pinckney, Richmond, Va.
Dr. Samuel Byron Pope, Jr., Norfolk, Va.
Dr. John Almer Poulson, Washington, D. C.
Dr. William Thomas Pugh, Richmond. Va.
Dr. William Orgain Purdy, Brodnax, Va.
Dr. Frank Francis Ramey, Richmond, Va.
Dr. Benjamin Watkins Rawles, Jr., Richmond, Va.
Dr. Alfred Chambers Ray, Jr., University, Va.
Dr. Edward Franklin Reaser, Washington, D. C.
Dr. Paul Houston Revercomb, Covington, Va.
Dr. Emmett Vynston Richardson, Marion, Va.
Dr. Herman M. Richardson, Richmond, Va.
Dr. Harold Lee Riley, Jr., Richmond, Va.
Dr. Charles William Rodgers, Jr., Washington, D. C.
Dr. William Hamilton Roper, Haymend, Me.
Dr. Samuel Leonidas Ruker, Jr., Moneta, Va.
Dr. Carl Fritz Shelton, Wheeling, W. Va.
Dr. Lewis Benjamin Sheppard, Glen Allen, Va.
Dr. Emory Lee Shiflett, University, Va.
Dr. Richard Franklin Slaughter, Jr., Baltimore, Md.
Dr. Claude Brackette Smith. University, Va.
Dr. George Edmund Stone, Bedford, Va.
Dr. Blanche Tabor, Cherrydale, Va.
Dr. Robert DuVal Jones, Jr., Norfolk, Va.
Dr. Ogbon Napoleon Simmons, Washington, D. C.
Dr. George Tucker Smith, University, Va.
Dr. Sam Lester Tabb. Alexandria, Va.
Dr. Meyer Vitsky, Richmond, Va.
Dr. Allan Elliott Walker, Jr., University, Va.
Dr. Kennon Christian Walden, Richmond, Va.
Dr. Fred Jacob Wampler, Richmond, Va.
Dr. Thomas Leonard Watson, Jr., University, Va.
Dr. Clinton Howard Whitehurst, Richmond, Va.
Dr. Louis Ervine Wice, Baltimore, Md.
Dr. Ennion Skelton Williams, Richmond, Va.
Dr. William Chalmers Wills, Nashville, Tenn.
Dr. Edward Hollaway Williams, Richmond, Va.
Dr. James Newton Williams, Richmond, Va.
Dr. James Edwin Wissler, University, Va.
Dr. Julian Howard Yeatman, Richmond, Va.
Dr. Orin Ross Yost, Richmond, Va.

Second District Medical Society Organized.

At the request of our President, Dr. Charles R. Grandy, sent out to the members of the Second Congressional District on June 16th, a meeting of representatives from the societies of the Second Congressional District was called to order by our Councilor, Dr. E. C. S. Taliaferro on July 2, 1930, at the Elliott Hotel, Suffolk, Va., at 8:00 P. M.

The following representatives were present:
Dr. Chas. R. Grandy, Norfolk, Va.
Dr. E. C. S. Taliaferro, Norfolk, Va.
Dr. F. C. Rinker, Norfolk, Va.
Dr. E. T. Hargrave, Norfolk, Va.
Dr. R. B. Kennon, Norfolk, Va.
Dr. J. E. Rawls, Suffolk, Va.
Dr. Geo. Richardson Joyner, Suffolk, Va.
Dr. F. A. Ward, Suffolk, Va.
Dr. J. A. Grizzard, Drewryville, Va.
Dr. Rea Parker, Smithfield, Va.
Dr. R. L. Raiford, Franklin, Va.
Dr. H. H. Hunter, Whaleyville, Va.
Dr. W. C. Gibson, Suffolk, Va.
Dr. O. T. Yates, Suffolk, Va.
Dr. C. H. Dawson, Suffolk, Va.

An open meeting was held and expressions regarding the organizing of such a society were given by Drs. Grandy, Grizzard, Dawson, Raiford, and Rinker.

A committee of three was appointed to name the society and this committee reported favorably on the name Second District Medical Society. The name was voted upon and carried unanimously.

The officers of the society were then elected as follows: Dr. Geo. Richardson Joyner, Suffolk, Va., President; Dr. James A. Grizzard, Drewryville, Va., Vice-President: Dr. F. C. Rinker, Norfolk, Va., Secretary-Treasurer.

It was decided to hold the first meeting of the Society in Suffolk some time in the early Fall, the date of the meeting to be set by the President and committee on by-laws.

The organization of the Second District Medical Society was brought about through the efforts of our President, Dr. Grandy, as a means of post-graduate medical education.

F. C. Rinker, *Secretary.*

The Mid-Tidewater Medical Society

Held its regular quarterly meeting at Millers Tavern in the historic Arlington Lodge, July 22nd. In the absence of the president, Dr. H. H. Hoskins, Dr. R. D. Bates presided at a brief business meeting in the morning. Delegates to the Norfolk meeting of the Medical Society of Virgina were appointed as follows: Dr. A. W. Lewis from King William; Dr. R. D. Bates from King and Queen; Dr. E. L. W. Ferry from Essex; Dr. O. L. Powell from York; Dr. M. H. Eames from New Kent; Dr. R. R. Hoskins from Mathews; Dr. James D. Clements from Gloucester; and Dr. H. H. Hoskins from Middlesex. In event a delegate could not go, it was requested that he designate an alternate from his county in his place.

Dr. P. E. Rossiter was recognized as a new member. He is at present in charge of the medical department of the Shipping Board Fleet in the James River. Dr. Blair Spencer was admitted to membership and recognized as a new member. Dr. Spencer conducts a rehabilitation camp for boys in Gloucester and made a very interesting report of his work there. Dr. Clarence Campbell, of Sparta, Caroline, was present and admitted to membership.

The following visiting doctors from Richmond were present and given honorary membership in the body: Dr. Frank S. Johns, senior surgeon of Johnston-Willis Hospital, Dr. Austin I. Dodson, attending urologist at St. Luke's and St. Elizabeth's Hospitals, Dr. Dean Cole president of the Virginia Tuberculosis Association, and Dr. H. Page Mauck, orthopedic surgeon.

The doctors of King and Queen and Essex entertained the members and visitors at a real Virginia dinner, which was fully enjoyed by all. The society will always be glad to meet at Millers Tavern when Drs. Ned Ferry, Tom Latane, Bob Bates, Seddon Cox and Newt DeShazo are an entertainment committee and Aunt Eliza is in the kitchen.

At the afternoon meeting, Dr. Mauck spoke on some of the common fractures which give troubles and the best ways to prevent serious disability. A general discussion of this paper was led by Dr. Hawes Campbell. Dr. Mauck replied to questions at the end of the discussion. Dr. Dodson presented the modern treatment of Neisserian infections in women, after which Dr. Harry Tabb, of Gloucester, opened the discussion. There were numerous talks on the subject which was concluded by Dr. Dodson.

A committee appointed at the morning session made a report on nominations for officers for the next year to be elected at the next

meeting. The report was accepted. The next meeting of the society will be held at Gloucester on October 28th, with Drs. Tabb, Spencer, Smith, Davis, and Clements a committee to arrange for the meeting.

M. H. HARRIS, *Secretary.*

The Loudoun County Medical Society

Held its regular monthly meeting at the Leesburg Inn, July 8th, at 8:00 P. M. Dr. Martin B. Hiden, of Warrenton, Va., was host. Invitations were extended all doctors, druggists, dentists, and their wives, and registered nurses of both Fauquier and Loudoun Counties.

Dr. John A. Gibson, a vice-president of the Medical Society of Virginia, spoke upon the status of the country physician in general practice. He stated that referring a case to a specialist meant alienation of the patient, and resulted, when the patient became severely ill at home, in his former family doctor knowing nothing whatever of his constitutional idiosyncrasies.

Dr. J. E. Knight, councilor of the State Medical Society from the 8th Congressional District, read a lucid and comprehensive paper upon the benefits which accrue to the physicians, the public and the State and national societies from sensible and constructive organization in medicine, beginning with the county society as a basic unit.

Dr. N. G. Miller, of Purcellville, presented conclusive evidence that the Federal government is attempting through its reprehensible stool pigeons, to ensnare reputable and worthy physicians and druggists in the inflexible law of the Harrison Anti-Narcotic Law.

The following officers were re-elected for the ensuing year: President, Dr. G. Frank Simpson, Purcellville; vice-presidents, Dr. J. B. Hackley, Purcellville, and Dr. G. H. Musgrave, Leesburg; secretary-treasurer, Dr. W. O. Bailey, Leesburg.

W. O. BAILEY, *Secretary.*

The Post-Graduate Medical Society of Southern Virginia

Held its regular meeting in Emporia, Va., July the 15th, under the presidency of Dr. M. H. Tredway. Following dinner at 6 P. M., there was a symposium on Diseases of the Thyroid, in which Drs. Ruth Mason, Herbert Jones, Wright Clarkson, J. Bolling Jones, all of Petersburg, and Dr. Manfred Call, Richmond, were the principal speakers.

At the business meeting which followed the scientific program, the following officers were elected for the ensuing year. President, Dr. Joel Crawford, Yale; vice-presidents, Dr. H. G. Stoneham, Waverly, and Dr. W. W. Bennett, Blackstone; secretary-treasurer, Dr. Philip Jacobson, Petersburg, re-elected. Drs. T. F. Jarratt, C. S. Dodd, and W. D. Prince were elected to the Board of Censors and Drs. J. Bolling Jones, W. M. Phipps, and L. O. Vaughan, as the committee on Public Health and Legislation.

New members received during the past year are: Drs. W. H. Venable, Burkeville; T. H. Anderson, Lawrenceville; and Dr. Leta J. White, Petersburg.

PHILIP JACOBSON, Secretary.

The Northampton County Medical Society

Met July 2nd, at the Memorial Hospital, Nassawadox, Va., Dr. H. L. Denoon, Nassawadox, President, in the chair. Dr. A. A. Creecy, of the Buxton Clinic, of Newport News, Va., the invited guest, gave a most instructive paper on "Acute Specific Urethritis."

After the meeting the society entertained its guest at a banquet at the Maplewood Country Club.

W. C. HENDERSON, *Secretary.*

Woman's Auxiliary, to the Medical Society of Va.

Constitution of the Woman's Auxiliary to the Medical Society of Virginia as Revised and Adopted at its Annual Meeting in Danville, Va., October, 1928.

CONSTITUTION

ARTICLE I—NAME

The name of this organization shall be the Woman's Auxiliary to the Medical Society of Virginia.

ARTICLE II—OBJECT

The object of this Auxiliary shall be to extend the aims of the Medical Profession through the wives of doctors to other organizations which look to the advancement of health and education. To assist in entertaining at all State Conventions, to promote acquaintanceship among doctor's families, that closer fellowship may exist, and do such work as may

be assigned from time to time by the State Medical Society.

Article III—Membership

The membership of the Woman's Auxiliary to the Medical Society of Virginia shall be composed of the Women's Auxiliaries of the Counties which are recognized by their County Medical Society. The wives, mothers, daughters and sisters of all doctors shall be eligible for membership.

Article IV—Officers

Section 1. The officers of this organization shall be a President, President-elect, four Vice-Presidents, three Directors, a Secretary, a Treasurer, a Parliamentarian. These officers with the exception of the Secretary, shall be elected every other year at the annual meeting, to serve for two years or until their successors are elected. The Secretary shall be appointed by the President for two years. All of the officers except the Secretary shall be elected by ballot unless there is only one candidate, when, by unanimous consent the ballot for that office may be cast by the Secretary.

Section 2. The term of office of the officers, with the exception of the President, shall begin at the close of the annual meeting at which they were elected. The term of office of the President shall begin at the close of the second annual meeting following the meeting at which she was elected. During the interim between her election and the time her term of office begins, she shall hold the title of President-elect.

Section 3. A Nominating Committee, consisting of five (5) members, no more than two of whom shall be members of the Executive Board, shall be appointed by the President at the regular Board Meeting previous to the annual meeting. It shall be the duty of this Committee to nominate a candidate for each office to be filled at the next annual meeting.

Section 4. A vacancy occurring in an office other than that of Secretary, shall be filled by the Executive Board for the unexpired term.

Article V—Duties of Officers

The duties of the officers shall be such as usually devolve upon such officers as are in accordance with the parliamentary authority adopted by this organization.

Article VI—Meetings

The meetings of the Woman's Auxiliary shall be held at the same time and place as the Medical Society of Virginia.

Article VII—Executive Board

Section 1. The officers, the chairmen of Standing Committees, and the President of each County Auxiliary, or her alternate, shall constitute the Executive Board.

Section 2. A regular meeting of the Board shall be held immediately before and after each annual meeting of the organization. Special meetings may be called by the President.

Section 3. Five members of the Board shall constitute a quorum.

Section 4. The Executive Board shall have all power and authority over the affairs of the organization during the interim between its meetings, excepting that of modifying any action taken by the organization and provided that no debt or liability except for current expenses shall be incurred by the Board. The Board is authorized to transact business by mail if necessary.

Article VIII—Dues

The annual dues of each County Auxiliary to the State Auxiliary shall be twenty-five cents (.25) for each of its members. The annual dues shall likewise be twenty-five cents (.25) per capita to the National. Both shall be payable on or before October 15th, to the State Treasurer. A County Auxiliary in arrears for the annual dues shall not be entitled to representation at the meetings of the organization.

Article IX—Delegates

Each County Auxiliary shall be entitled to one delegate for every fifteen members or less, and for each additional fifteen members one additional delegate, these accredited delegates with the members of the Executive Board to form the voting body.

Article X—Standing Committees

Such Standing Committees shall be appointed annually by the President as the Executive Board from time to time may deem necessary to carry on the work of the organization. Each Standing Committee, through its Chairman, shall submit a plan of work on or before August 1st of each year to the President for approval, and no work shall be under-

taken without such approval. Each Standing Committee shall report to the organization at the annual meeting.

ARTICLE XI—COUNTY AUXILIARIES

Section 1. A County Woman's Auxiliary to the State Medical Society shall be organized, if possible, in each County, provided such organization is approved by the County Medical Society. The object of a County Auxiliary shall be to promote the objects and interests of the State Woman's Auxiliary, and to do such other work as its County Medical Society may from time to time assign to it. Each County Auxiliary is authorized to make its own rules for the transaction of its business and the admittance of its members, provided such rules do not conflict with the rules of the organization or of the State Auxiliary.

Section 2. Each County Auxiliary shall send a report to the State Secretary on or before October 1st of each year, which shall contain the names and addresses of its officers and chairmen of Standing Committees and the number of its members.

ARTICLE XII—PARLIAMENTARY AUTHORITY

The rules contained in Robert's Rules of Order, Revised, shall govern this organization in all cases to which they are applicable and in which they are not inconsistent with the constitution.

ARTICLE XIII—AMENDMENTS

This Constitution may be amended at any regular meeting of the State Auxiliary, provided written notice has been sent each County Auxiliary not less than one month prior to said meeting.

News Item.

Mrs. Southgate Leigh, Norfolk, former president of the Woman's Auxiliary to the Medical Society of Virginia, was elected first vice-president of the Woman's Auxiliary to the American Medical Association, at it annual meeting in Detroit, Mich., June 23rd-26th. Mrs. Leigh also remains chairman of the standing committee on Organization.

The Truth About Medicine

In addition to the articles enumerated in our letter of May 29th the following have been accepted:

Carel Laboratories.
  Alpha-Naphco.
Maltbie Chemical Co.
  Ephedrine Nasal Jelly—Maltbie.
Mead Johnson & Co.
  Mead's 5 D Cod-Liver Oil with Viosterol.
Merck & Co., Inc.
  Pyridium.
    Aqueous Solution of Pyridium, 1 per cent.
    Pyridium Tablets, 0.1 Gm.
    Pyridium Ointment, 10 per cent.
H. A. Metz Laboratories, Inc.
  Elixir of Pyramidon.
  Pyramidon Tablets, 1½ grains.
National Drug Co.
  Ragweed Pollen Antigen—National.
  Timothy Pollen Antigen—National.
Parke, Davis & Co.
  Ephedrine Hydrochloride—P. D. & Co.
    Capsules Ephedrine Hydrochloride—P. D. & Co., ⅜ grain.
    Capsules Ephedrine Hydrochloride—P. D. & Co., ¾ grain.
  Thio-Bismol.
    Ampoules of Thio-Bismol.
Pitman-Moore Co.
  Siomine.
    Siomine Capsules, ½ grain.
    Siomine Capsules, 1 grain.
    Siomine Capsules, 2 grains.
    Siomine Capsules, 5 grains.
G. D. Searle & Co.
  Ampules Mercurochrome—H. W. & D., 1 per cent, 10 c.c.
  Ampules Mercurochrome—H. W. & D., 1 per cent, 20 c.c.
Nonproprietary Article.
  Alphanaphthol.

FOODS

The following products have been accepted by the Committee on Foods of the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in Accepted Foods:

Nouron (Nouron Products Corporation, New York). The ingredients used in the manufacture are soy beans, whole wheat flour and egg yolk. It is claimed to be a nutritious, digestible and palatable food prepared especially for assisting in the gradual change from a liquid to a solid diet, as for weaning babies and for convalescents.

Merrell-Soule Whole Lactic Acid Milk Powder (Merrell-Soule Co., Inc., New York). It is made from fresh whole milk. It contains fat, 28 per cent; protein, 26.5 per cent; lactose, 32.5 per cent; mineral matter, 6 per cent; total acidity, 5 per cent; free lactic acid, 4.25 per cent; moisture, 2.25 per cent. It is prepared from pure whole milk inoculated with a culture of *Streptococcus lactis*. This product is claimed to have the value of freshly prepared lactic acid milk.

Jell-O (The Jell-O Co., Inc., Le Roy, N. Y., General Food Corporation, Successor). A mixture of pure gelatin, cane sugar, pure fruit flavor, fruit acid from grapes and vegetable color.

Carnation Milk (Carnation Milk Products Company). Cow's milk reduced to consistency of cream by evaporating in vacuum and then sterilizing. It contains the vitamins that any cooked milk is depended on to supply.

New Oata (Ralston Purina Co., St. Louis). It contains rolled oats and precooked rolled wheat. It is claimed to provide iron, phosphorus and the constituents of these grains in a form permitting rapid cooking.

Purina Whole Wheat Flour (Ralston Purina Co.,

St. Louis). It is composed of whole wheat. It is claimed that the product is rich in iron, phosphorus and other minerals.

Checker-Corn Flakes (Ralston Purina Co., St. Louis). It is claimed to provide flavor and variety appealing to the appetite.

Ralston Wheat Flakes (Ralston Purina Co., St. Louis). It is composed of whole wheat, claimed to provide nourishing food in appetizing form.

Ralston (The Whote Wheat Cereal) (Ralston Purina Co., St. Louis). It is choice hard winter wheat, containing the wheat embryo, with its vitamins. It is claimed that the whole wheat berry supplies the elements for healthy growth. (Jour. A. M. A., June 14, 1930, p. 1919.)

ACCEPTED DEVICES FOR PHYSICAL THERAPY

The following have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

Comprex Electro-Cautery and Diagnostic Light (Comprex Oscillator Corporation, New York).—A device for cauterization by means of electrodes which are electrically heated to the desired temperature. The device consists essentially of a transformer, designed to operate on either a 110 or 220 volt, 60 cycle alternating current circuit. The transformer is also tapped at such point as will give the desired voltage for the operation of a diagnostic light.

"Stoppollen" Air Filter (Davies Air Filter Co., New York).—A simplified portable filter which delivers dust- and pollen-free air. The apparatus is described as consisting of a cabinet rectangular in shape, which contains the filter screen, a pressure fan and an electric motor, and is so constructed as to fit into any sized window. The cost of operating the device continuously for twenty-four hours is about ten cents. Tests were conducted which demonstrated that the Stoppollen air filter was efficient as a means of keeping a room free from dust and pollens. (Jour. A. M. A., May 31, 1930, p. 1760).

PROPAGANDA FOR REFORM

The Sale of Sunshine Lamps to the Public.—The Council on Physical Therapy has taken the stand that a sunshine lamp sold directly to the public should be so constructed that the radiant energy emitted shall not differ essentially from sunlight. Furthermore, the advertising and descriptive matter pertaining to such lamps should contain no curative claims nor mention of specific diseases. The Council believes that the advertising should be more conservative: it is not convinced that human beings in health require the great amount of ultraviolet energy one is led to believe is the case from the advertising pertaining to some of the so-called sunlamps sold to the public. (Jour. A. M. A., June 14, 1930, p. 1918.)

A Statement to Manufacturers of Physical Therapy Equipment.—It has come to the attention of the Council on Physical Therapy that certain manufacturers make unscientific and unwarranted claims in advertisements that appear in publications other than those of the American Medical Association while advertising the same equipment conservatively in publications of the Association. The Council calls the attention of manufacturers to the fact that all advertising must conform to the requirements of the Council if the apparatus is to remain acceptable to the Council. (Jour. A. M. A., June 14, 1930, p. 1918.)

No Intestinal Antiseptic.—There is really no such thing as an intestinal antiseptic, if that term is defined as equivalent to disinfectant, there being no known influence capable of killing the micro-organisms in the living intestine. If the term is defined to include inhibition of the growth and diminution in the number of intestinal microbes, then diet (milk diet in most adults) constitutes perhaps the most important influence of that kind. Mild mercurous chloride might qualify as an efficient drug with a tendency in this direction. Phenolsulphonates (sulphocarbolates) are worthless. (Jour. A. M. A., June 14, 1930, p. 1939.)

Yeast.—Yeast has so uncertain a laxative effect that it is hardly justifiable to class it among the cathartics. It might more appropriately find a place among the laxative diet factors alongside bran, honey and prunes. Its content of vitamin B makes it of specific value in skin eruptions due to vitamin B deficiency, such as those occurring in pellagra. That it is of much value in other skin troubles, such as acne or furunculosis, is doubtful. The history of yeast suggests that it has a therapeutic value, but that this value is slight indeed. (Jour. A. M. A., June 14, 1930, p. 1939.)

Book Announcements

Manual of the Diseases of the Eye for Students and General Practitioners. By CHARLES H. MAY, M. D. Thirteenth Edition, Revised. With 374 original illustrations, including 23 plates, with colored figures. William Wood & Company. New York. 1930. Price, $4.00.

This book is written for the general practitioner and the student. Who is the general practitioner? Who represents in medical practice, today, the general practitioner? Is he the "family doctor"; is he the country doctor; is he the small-town doctor? What is the scope of his work? If he exists at all and is able to follow the line of activity in practice that the term indicates, he undertakes to attend medical diseases of his patients, he looks after, in a restricted sense, minor surgical conditions, he attends to the obstetrical requirements of his clientele; he looks after the urological disorders; in a limited way he gives attention to and treats the nose and throat diseases, the skin diseases and even the eye diseases of his patients.

It is for such a general workman that this book is written and it is to such a man the work may be very helpful. The book is small, containing some 450 pages, and it gives a concise and readable description of the eye and its diseases. Description of the anatomy and physiology and methods of examination precede consideration of disease. The disease of the eyelids, lachrymal apparatus, the orbit, conjunctiva, cornea, sclera, iris, ciliary body, and choroid are described and methods of treatment are laid down. Besides, here is given discussion of ophthalmitis, tumors, glau-

XUM

coma, diseases of vitreous, diseases of the lens, retina, optic nerve, disorders of vision, and the book closes with a few chapters on general optical principles and consideration of refraction as an accommodation and mobility of the eye and ocular therapeutics.

General practitioners of medicine may well read this revised, thirteenth edition of this book and place it in the library as a reference work for diagnosis and treatment of such cases.

A. G. B.

Physical Diagnosis. By RICHARD C. CABOT, M. D. Tenth Edition. Revised and Enlarged with Six Plates and 279 Figures in Text. William Wood & Company. New York. 1930. Price, $5.00.

Cabot has been a prodigious worker in physical diagnosis. He has written during the past twenty years a great deal on this important subject. His work as a teacher in physical diagnosis has qualified him, in a peculiar sense, to assemble in 500 pages much of the accepted knowledge of this subject of physical diagnosis and with this to add the impressions, methods, opinions, and beliefs he has arrived at in his wide experience as a clinical teacher and practitioner. In the last edition of a work originally submitted to the public in 1905, he has revised the work, with the aid of a secretary. It is a well arranged book: approaching the subject by discussion of the body as a whole, he takes up the diagnosis of disease and conditions of the head, face and neck; the arms, head and back; the chest, its general diagnostic study; the pulse; the heart, its inspection palpation and auscultation, etc.; hypertension; diseases of the lungs, and pleural disease of the abdomen and viscera, bladder and rectum, the blood, joints and nervous system.

Practitioners may do well to read this practical treatise on subjects that arise in daily practice. Only by refreshing the mind by a review of medical conditions, treated by one so well experienced and qualified to present such matters in a readable fashion, can one "keep on his toes."

A. G. B.

Annual Reprint of the Reports of the Council on Pharmacy and Chemistry of the American Medical Association for 1929. With Comments that have appeared in The Journal. Cloth. Price $1. Pp. 81. Chicago: American Medical Association, 1930.

This is the volume in which the Council annually collects the reports on articles found unacceptable during the year. This edition contains also several interesting preliminary reports on preparations which show promise but for which the evidence is not yet sufficient to justify acceptance by the Council.

New and Nonofficial Remedies, 1930. Cloth. Price, $1.50. Pp. 481; xlviii. Chicago: American Medical Association, 1930.

The present edition contains all of the features that have in the past made New and Nonofficial Remedies such a reliable and efficient guide to the physician who wishes to inform himself on the newer medicinal preparations: logical classification of preparations, with authoritative articles on each class; complete and carefully written descriptions of preparations; elaborate indexes; and a useful cumulative list of references to the literature on articles not accepted by the Council.

Medical and Surgical Year-Book. Physicians Hospital of Plattsburgh. Comprising Wednesday Afternoon Invitation Lectures, Papers of the Cardiac Round Table, The First Beaumont Lecture Collected Papers by the Staff. 1930. The William H. Miner Foundation. Plattsburgh, N. Y. Illustrated. Octavo of 322 pages. Cloth.

Clio Medica. A Series of Primers on the History of Medicine. **Medicine in the British Isles.** By SIR D'ARCY POWER, K. B. E., F. R. C. S. Eng., Honorary Librarian at the Royal College of Surgeons of England, Consulting Surgeon St. Bartholomew's Hospital, London. Editor: E. B. KRUMBHAAR, M. D. Paul B. Hoeber, Inc. New York. 1930. 12mo. of 84 pages. Cloth. Price, $1.50.

Clio Medica. A Series of Primers on the History of Medicine. **Anatomy.** By GEORGE W. CORNER, M. D., Professor of Anatomy in the University of Rochester. Editor: E. B. KRUMBHAAR, M. D. Paul B. Hoeber, Inc. New York. 1930. 12mo. of 82 pages. Illustrated. Cloth. Price, $1.50.

The Work of Blindness Prevention. By C. G. HENDERSON, Indian Civil Service, Retired. Blind Relief Association. Bombay. 1930. Pamphlet of 29 pages.

Contributions to Fox Ethnology—II. By TRUMAN MICHELSON. Smithsonian Institution Bureau of American Ethnology. Bulletin 95. United States Government Printing Office. Washington. 1930. 183 pages. For sale by the Superintendent of Documents, Washington, D. C. Price, 75 cents. (Cloth.)

Burns. Types, Pathology and Management. By GEORGE T. PACK, B. S., M. D., Fellow of the Memorial Hospital, New York; Formerly Professor of Pathology and Lecturer in Minor Surgery, the School of Medicine, University of Alabama, Member American Association of Pathologists and Bacteriologists, etc. And A. HOBSON DAVIS, B. S., M. D., Instructor in Pathology, University of Alabama. J. B. Lippincott Company. Phildaelphia and London. 1930. 60 illustrations. Octavo of 364 pages. Cloth.

Virginia Medical Monthly

FOUNDED BY LANDON B. EDWARDS, M. D., APRIL, 1874.
OWNED BY THE MEDICAL SOCIETY OF VIRGINIA.
PUBLISHED BY THE PUBLISHING COMMITTEE.

A. G. BROWN, JR., M. D., Chairman and Editor, Richmond, Va.

W. B. MARTIN, M. D., Norfolk, Va.
J. H. NEFF, M. D., University, Va.

AGNES V. EDWARDS, Business Manager and Secretary-Treasurer.

All correspondence regarding editorial matters, articles, advertisements, subscription rates, etc., should be addressed to the Monthly, 104½ West Grace Street, Richmond, Va.

All advertisements are received subject to the approval of the Council on Pharmacy and Chemistry of the American Medical Association.

Subscription Price: $2.00 per annum in advance.
Single Copies 20c.

VOL. 57 AUGUST No. 5

Editorial

MEDICINE IN VIRGINIA
in the
SEVENTEENTH CENTURY
By
Wyndham B. Blanton, M. D.
Under Authorization of the Historical Committee of the
Medical Society of Virginia
Publishers: The William Byrd Press, Inc., Richmond.

History of Medicine in Virginia in the Seventeenth Century.

The Medical Society of Virginia has long felt that there should be a real effort made to write the history of medicine in Virginia. It was known that there was necessarily a wealth of medical lore in the history of the establishment of the oldest settlement and colonization of English speaking people on this continent; that in the implantation and life of the settlers and groups of immigrants following through succeeding years, there must necessarily be a great story of medical interest, unwritten and unsung. It was believed that a search among the records of the settlers, in letters, reports to home government, pamphlets of experiences of travelers and adventurers, in court and military records of colonial people, and history, would reveal a spectacular and thrilling story of the conflict of Disease and Colonization.

Following upon several unsuccessful attempts to get this big story out of the past, the Medical Society of Virginia, fortunately, in 1926-27, created a historical committee, manned by a personnel who caught this vision of the past. This Committee set to work to bring to light and to put in written form the part played by Medicine in the settlement and colonization of Virginia and, subsequently, the Commonwealth or State of Virginia. This Committee, again fortunately, chose of its number one who had disclosed abilities as a historiographer and placed him in charge of the research and the authorship of the volume.

And now Dr. Wyndham Bolling Blanton's work is before you, and you will be proud of his workmanship.

The Bibliography

After one notes the skill of the author, one, in a work of this sort, next naturally turns to his bibliography and scans with keen interest the make-up of his "source" of information. For no such work as this has been written, but in the bibliography of that early America, there was stored a mine of material, depicting health and disease with the medical personnel of the times. The author wisely, in large measure, sought out the printed records of contemporaneous writers and, later authoritative historiographers who have written in their works of disease and of medical men of that era as they recorded colonial, state, legislative, and social life of this country in its first century.

One notes: Captain John Smith's works, 1608-1631; John Lederer's Discoveries, 1669-1670; George L. Burr, Narratives of the Witchcraft Cases, 1648-1706; Thomas Harriott, A Briefe and True Report of the New Land of Virginia, 1588; William Strachey, The History of the First Discovery and Settlement of Virginia Britannia (written 1616-1618). Printed from the original manuscript in the British Museum, London, 1849; and other writers of the period.

One notes, also that the author has searched for original material for his work in the records of the county government, preserved in the State Library, found in collections and publications of the Virginia Historical Society, in Colonial records of Virginia, from papers in the British Public Record office, in County Records of the Seventeenth century (records of the counties of Henrico, Northampton, Northumberland, Rappahannock, Richmond, Surry, and York) in Parish records, Vestry

books and Registers, in McIlwaine's Executive Journals of the Colonial Virginia, Journal of the House of Burgesses, in the William and Mary College Quarterly, covering the colonization period of Virginia and other line sources, as William Waller Hening, The Statutes at Large. Also, one is impressed by such outstanding historical contributions to Virginia history in the bibliography of Alexander Brown, "The First Republic in America"; The Genesis of the United States; R. A. Brook, Collections of the Virginia Historical Society; Phillip Alexander Bruce, Economic History of Virginia in the Seventeenth Century; Institutional History of Virginia in the Seventeenth Century; Social Life of Virginia in the Seventeenth Century; Lyon G. Tyler, Encyclopedia of Virginia Biography; Horace E. Hayden, Virginia Genealogies; Bishop William Meade, Old Churches, Ministers and Families in Virginia; Mary Newton Stanard, Colonial Virginia—Its People and Customs; J. M. Toner, Contributions to the Annals of Medical Progress and Medical Education in the United States, and other historical works of this nature.

Medicine Under the London Company

The Englishmen under Sir Walter Raleigh, in 1583-1588, attempted, unsuccessfully permanent settlements. But the one result that was permanent was the naming of the new country, Virginia, in honor of Queen Elizabeth. In 1606, under the London Company, chartered by the Crown, there was sent out from England an expedition which landed finally and accomplished a permanent settlement, May 13, 1607, at a place on James River which was given the name of Jamestown. Here for eighteen years until 1624, under the London Company, there took place a conflict of mighty forces of nature, a conflict between the will of a mighty people—the Englishmen—and forces of Disease. Our author recounts from the records of his bibliography instances that show the large place that disease, brought about by deficient food and dietary, by inadequate sanitary conditions, by infections, played in this terrific conflict in the birth of this nation. Medical men, under the light of the knowledge of the day and under the environment of an expeditionary settlement in a foreign and wild country, played no small part in this great event. Before the Pilgrims landed at Plymouth, 1623, on the shores of the James River, the medical men had begun a heroic part here in Virginia in warding off the devastating and ravaging effects of disease among the early settlers. In the pages of the opening chapters, one may picture the hardships and difficulties, while he can but admire the story and the effort of the adventurous members of the medical band as they did their important part.

After describing the early days under the London Company, our author closes with this paragraph:

"The regime of the London Company ended in 1624. It had shown a rather high conception of the type of physician that should be sent to the colony. Russell, Bohun, Pott, and Pawlet were all men of education. Throughout the remaining years of the century, Virginia had many physicians and surgeons, most of them home-grown, self-educated, and products of a local apprenticeship."

The Remainder of the Book

In the body of the book, covering interesting medical questions, the author treats such medical questions as the epidemic diseases of the first century in the Virginia Colony; medical education as conducted here in the early days; describes the remedies and means of therapy used by the colonial doctor in his treatment of disease; the manner and nature of medical practice of those pioneer decades of the Old Dominion; methods used through the scores of years of the Seventeenth Century in the colony for housing the sick; the place and services of the women of the colony in the practice of medicine and the care of the sick; the private life of the physicians in colonial Virginia; the public relations and responsibilities of the physicians in the government and in the official life of Virginia; the vocational interests of the medical man and his avocational diversification in employments of his time; the medical fees, and the method of paying for professional services; and, in the 12th Chapter the medical legislation enacted through these formative years of American colonization. To every American practitioner of today, if he has a patriotic and true interest in medical progress in America, these chapters must abound in keenest interest. Every page is filled with a fascinating story of the medical past of the profession that must thrill medical readers of today.

XUM

Epidemic Disease

The mortality is shown here as devastating, particularly in the first twenty-five years of the colony. The settler arrived, after a voyage aboard an unsanitary small sailing ship, covering in passage months on the sea, poorly fed, the victim of deficiency diseases and soon to be assailed by active infections of polluted drinking water and spoiled food, to say nothing of wound infections and contagious pulmonary infections. In the chapter on early days of the colony, one may find instances of health hazards that make one wonder how it was possible for a white man to survive under such conditions through any number of years. As decade succeeded decade, through this first century of Virginia, sickness and epidemic maladies made terrible inroads on the population. The author discusses briefly beriberi, scurvy, malaria, respiratory infections (such as influenza, pneumonia), and the summer complaints of "fluxes and fever," dysentery, colitis, yellow fever, and tuberculosis.

Medical Education

This chapter is especially interesting. It tells of the early doctors, sent over by the Sheffey Company from London. As the author brings out medical education of the colonial medical man through the century, many interesting facts are disclosed. The educated London immigrant doctor, the indented apprenticed medical student of the later years, the libraries of medical men, and like interesting notations are brought out. As the century passed it was true that few of the colonial doctors had the university degree of doctor of medicine, many of them having been an apprenticed student under an English physician or a Virginian and in this way was commissioned. In the latter period of the Jamestown administration, free school education improved the material and medical education began to show a higher type of student in the late decades of the Seventeenth Century.

A List of Seventeenth Century Virginia Doctors With Biographic Sketches

Under this, the author has culled from various sources a remarkable collection of colonial names with some biographic description. Most of the names of the colonial physicians appear to be English. There are 230, more or less.

For instance: "Wotton (Wootton), Thomas: Chirurgeon. Came to Virginia in 1607 and was the first Surgeon General of the Colony . . ."

"Parke, (Park) Colonel Daniel: Born in England and came to Virginia very young . . . He was an active practicing physician . . . His will, filed in London, bequeathes 'all my plantations and negroes in Virginia' . . . to his son Daniel Parke . . ."

"Irby, Dr. William: Lived in Westover Parish, Charles City Co. . . . Collected medical fees in Henrico Co., Court 1679-1693 . . ."

"Makemie, Francis: 'Father of the Presbyterian Church in America' . . . Came to Accomac Co., Va., soon after 1864." He was a doctor of physic.

"Robins, Dr. Thomas: Chirurgeon, of Robins' Neck, Gloucester Co. Mentioned as practicing in York Co., 1666-74 . . ."

This book should be read and owned by every Virginia doctor. It abounds in interest. No one should miss the opportunity of securing a copy from the limited edition that will be published.

Alexander G. Brown, Jr.

News Notes

Norfolk Meeting of Medical Society of Virginia.

Interest is beginning to center around the forthcoming meeting of the Medical Society of Virginia to be held in Norfolk, under the presidency of Dr. Charles R. Grandy, of that city. Titles with abstracts have been received for a number of papers to be presented in the general sessions. In this connection, we wish again to call attention of members to the following resolutions governing the program, and to request members who desire to present papers to send titles with abstracts to the Society's offices by September 1st. In accordance with our By-Laws, no paper presented shall be allowed more than fifteen minutes.

XUM

RESOLUTIONS GOVERNING PROGRAM

1. That at the next meeting the report of the House of Delegates be made at noon on Thursday, October 23, after which the meeting shall adjourn finally to an oyster roast:
2. That the clinics to be given on Tuesday afternoon, October 21, be divided into three (3) groups, conducted simultaneously, at different locations, and that notice of the place and time of the clinics be published in the "Monthly" in advance, for the information of members;
3. That notices be sent to members, inviting them to submit titles of "voluntary" papers to be placed on the program, but that no paper be accepted unless the title with an abstract of the paper of 150 to 200 words, be sent to the Secretary by September 1;
4. That if the number of titles, with abstracts submitted, be in excess of the number necessary to make up a program, such additional titles of papers appear in the program to be read by title.

There will be a symposium on Syphilis, for which the chief speakers will be Dr. William B. Newcomb, Norfolk; Dr. C. C. Coleman, Richmond; Dr. C. B. Ransone, Roanoke; and Dr. D. C. Smith, University. Discussion will be opened by Dr. Carrington Williams, Richmond; and Dr. Charles E. Conrad, Harrisonburg.

Clinical meetings will be held at St. Vincent's Hospital, Norfolk Protestant Hospital, and the King's Daughters' Clinic, and it is expected that these will be largely attended.

The golf tournament will be held on Tuesday, October 21st, the exact time and schedule of which will be announced later.

The Monticello Hotel will be headquarters and all meetings except the clinical ones will be held there. There are several other good hotels in Norfolk, also, so that there will be ample assommodations, though it is best to make reservations in advance so as to secure one's preference.

Information about the meeting, according to its nature, may be had from the local chairman, Dr. William L. Harris, Medical Arts Building, Norfolk, or from the Society's offices, 104½ West Grace Street, Richmond.

American Medical Association.

The eighty-first annual session of the American Medical Association was held in Detroit, Mich., June 23rd-27th, under the presidency of Dr. Malcolm L. Harris, of Chicago. Dr. William Gerry Morgan, Washington, D. C., succeeded to the presidency at this session. Virginia was represented in the House of Delegates by Drs. Southgate Leigh, J. W. Preston, and E. C. S. Taliaferro. The scientific and technical exhibits were of a high class. Dr. Vincent W. Archer and Charles H. Peterson, of Virginia, were awarded a bronze medal in Class II of the Scientific Exhibits for excellence of presentation of original work on intestinal ascariasis.

Philadelphia was selected as the 1931 place of meeting and the following officers were elected: President-elect, Dr. Edward Starr Judd, Rochester, Minn.; vice-president, Dr. Louis J. Hirschman, Detroit; secretary, Dr. Olin West, Chicago; and treasurer, Dr. Austin A. Hayden, Chicago, both of the latter having been re-elected.

There was a registered attendance of 5,104, of whom the following forty-three were from Virginia:

Dr. Vincent W. Archer, University.
Dr. Howard Armstrong, Harrisonburg.
Dr. Dudley C. Ashton, Richmond.
Dr. Edward L. Alexander, Newport News.
Dr. Randolph Anderson, Richmond.
Dr. E. Barksdale, Lynchburg.
Dr. Emmett P. Bray, Hanover.
Dr. I. Keith Briggs, South Boston.
Dr. C. C. Coleman, Richmond
Dr. T. Dewey Davis, Richmond.
Dr. J. H. Deyerle, Harrisonburg.
Dr. E. G. Gill, Roanoke.
Dr. Charles R. Grandy, Norfolk.
Dr. Edgar C. Harper, Richmond.
Dr. Emory Hill, Richmond.
Dr. Fred M. Hodges, Richmond.
Dr. J. Shelton Horsley, Richmond.
Dr. M. B. Jarman, Hot Springs.
Dr. Southgate Leigh, Norfolk.
Dr. Eugene L. Lowenberg, Norfolk.
Dr. E. R. Martin, Newport News.
Dr. Walter B. Martin, Norfolk.
Dr. H. H. McGuire, Winchester.
Dr. Thos. W. Murrell, Richmond.
Dr. Robert L. Payne, Norfolk.
Dr. William B. Porter, Richmond.
Dr. John W. Preston, Roanoke.
Dr. N. M. Robinson, Vinton.
Dr. Mary E. Roche, Norfolk.
Dr. L. T. Royster, University.
Dr. B. C. Shuler, Shenandoah.
Dr. Dudley C. Smith, University.
Dr. Hunter B. Spencer, Lynchburg.
Dr. James B. Stone, Richmond.
Dr. L. E. Stubbs, Newport News.
Dr. E. C. S. Taliaferro, Norfolk.
Dr. D. M. Thomasson, Lynchburg.
Dr. Hugh H. Trout, Roanoke.
Dr. Cuthbert Tunstall, Charlottesville.
Dr. Warren T. Vaughan, Richmond.
Dr. E. P. White, Odd.
Dr. L. L. Williams, Jr., Richmond.
Dr. Fletcher D. Woodward, Charlottesville.

Married.

Dr. Robert Battaile Hiden, Stockbridge, Mass., of the class of '23, University of Vir-

ginia, and Miss Clotilda Rodes Waddell, in Annapolis, Md., June 23rd.

Dr A. Lacy Tynes, Staunton, Va., of the class of '30, University of Virginia, and Miss Bessie Meade Riddle, Norfolk, Va., June 21st. For the coming year, Dr. Tynes will serve as an interne in the army hospital at Fort Sam Houston, Texas.

Dr. Addison McGuire Duval, of the class of '29, Medical College of Virginia, and Miss May Elizabeth Weymouth, in Newport News, Va., June 25th. Dr. Duval recently completed an internship at St. Elizabeth's Hospital, Washington, D. C., and will now be located at Cherrydale, Va.

Dr. Felix Burwell Welton, of the class of '27, Medical College of Virginia, and Miss Lelia Frances Gardner, Decatur, Ga., July 17th. Dr. Welton is at present on the house staff of the New York Polyclinic Hospital. In the Fall, Dr. and Mrs. Welton will go to China, where Dr. Welton will be connected with the Yencheng General Hospital.

Dr. James Alvis Soyars, Saltville, Va., and Miss Billie Barnes, Abingdon, Va., the latter part of June. Dr. Soyars was graduated from Medical College of Virginia in 1928 and served an internship at George Ben Johnston Memorial Hospital, Abingdon.

Medical College of Virginia News.

The following are new appointees of the faculty of the Medical College of Virginia for next session or who have been absent on leave and are taking up work again with the institution: Dr. Isaac A. Bigger, professor of surgery; Dr. Sigmund F. Bradel, associate in crown and bridge prothesis and dental metallurgy; Dr. H. G. Grant, associate in preventive medicine; Dr. G. F. McGinnis, associate in preventive medicine; Dr. A. L. McLean, associate in preventive medicine; Dr. Rolland J. Main, associate in pharmacology and physiology; Dr. B. W. Meador, associate in dermatology and syphilology; Jesse A. Reese, instructor in pharmacy; Dr. J. Asa Shield, associate in nervous and mental diseases; Dr. W. R. Southward, assistant in surgery; Dr. Harry Walker, instructor in medicine; Dr. J. C. White, assistant in medicine; Dr. B. W. Wilkinson, assistant in surgery; Dr. C. W. Skinner, associate professor of anatomy.

Dr. H. Hudnall Ware, Jr., on July 1st, as associate in obstetrics, became chief of service, department of obstetrics. His responsibilities will cover both the inpatients, outpatients, and include the home obstetrical deliveries. This new arrangement for coordinating the obstetrical services of the institution will be under the general direction of the head of the department. Under this plan Dr. Ware will be whole time within the institution with certain time allowed for work with private patients.

In addition to Dr. Ware three other teachers of clinical subjects of the school of medicine are now on this so-called whole time basis; they give full time within the institution but not full time to the institution in that they are given certain opportunities daily to see private patients. Those engaged on this plan at present are Dr. William B. Porter, professor of medicine; Dr. Isaac A. Bigger, professor of surgery, and Dr. Lee E. Sutton, Jr., assistant professor of pediatrics and chief of the service.

Field work has begun in Southwest Virginia in the study of lung involvement in human ascariasis made possible by a research grant from the Committee on Scientific Research of the American Medical Association. The disease will be studied both from the clinical and laboratory sides.

The first Stuart McGuire Lecture, delivered by Dr. William J. Mayo last spring, has been published in bulletin form and is available to the profession upon request. Dr. Mayo's subject was "In Medicine Understanding Must Come Before Belief."

Ten Million Trees for George Washington.

The Commission appointed by President Coolidge to arrange proper observation of the Two Hundredth Birthday of George Washington (in 1932) has asked the American Tree Association to take charge of the Memorial Tree Planting.

The aim of the Commission and of the Association is to have over ten million memorial trees planted between now and 1932, and dedicated to the Father of our Country on February 22, 1932. In order to do this, individual plantings, group plantings, street plantings, and forest plantings are desired. Patriotic citizens everywhere are urged to do their part in this work, and to plant a tree or to participate in the planting of a number of trees.

XUM

The American Tree Association, 1214 Sixteenth Street, Northwest, Washington, D. C., will be pleased to send tree planting suggestions *gratis* to any one who asks for them.

What Can Be Done for Porto Rican Children?

At the request of President Hoover, Dr. J. S. Crumbine, general executive of the American Child Health Association, has gone with two assistants to Porto Rico to see what can be done for the children of that island. This action was taken in response to the appeal for aid by Theodore Roosevelt, governor of Porto Rico, who called attention to the distressing conditions which have continued ever since the recent hurricane caused widespread destruction of property and crops.

Meeting to Discuss a Differential Stain for Tissue Diagnosis in the Operating Room.

The following is a brief report of a meeting held in the Surgical Pathological Laboratory at Johns Hopkins Hospital in Baltimore, just prior to the A. M. A. Convention at Detroit. This meeting was arranged by Dr. J. C. Bloodgood and attended by pathologists, surgeons, chemists and technicians from all parts of the country.

The chief subject of discussion and demonstration was a differential stain for tissue diagnosis in the operating room.

This is a question of vital importance to every surgeon in the interest of his patient. Frozen section diagnosis of fresh tissue has been used for years with more or less satisfactory results, but the stains used did not permit permanent mounts or preservation of sections. Dr. Bloodgood and his associates demonstrated a new alcohol soluble stain which showed good differentiation of cells and stroma was rapid and could be permanently mounted for further study and reference. The technique is very simple, the time consumed not more than the ordinary frozen or fresh sections and has the estimable advantage of being permanent.

To any one interested, the Experimental Laboratory of Johns Hopkins Hospital, Baltimore, Md., will furnish a small sample of stain upon request.

MARY E. ROCHE, M. D.,
Norfolk, Va.

The American Hospital Association

Requests hospitals and all others who participated in the celebration of National Hospital Day, this year, to send their material for the contest, for award to be given for the best demonstration of display. The material will be displayed in the booth at the annual convention of this association in New Orleans, October 21st-25th.

For further information, write Dr. J. R. Morrow, chairman, Bergen County Hospital, Ridgewood, N. J.

A Post-Graduate Week of Physical Therapy

Is to be conducted in conjunction with the ninth annual scientific session of the American Congress of Physical Therapy, September 8th to 12th, inclusive, 1930, at the New Hotel Jefferson, St. Louis, Mo.

An intensive post-graduate week of physical therapy is promised. While every phase of physical therapy will be covered, the systematic arrangement of the program makes it possible for the physician to attend only those sessions in which he is vitally interested. Several of the afternoons and evenings will be given over to addresses by prominent guests. There will be symposia on "Education and Teaching of Physical Therapeutics" and on "The Relation of the Physician and the Technician in Office and Hospital Practice."

The preliminary program containing full information and details will be sent upon request to the Executive Secretary, American Congress of Physical Therapy, Suite 716, 30 N. Michigan Avenue, Chicago, Ill.

Dr. Emory Hill,

Richmond, Va., was re-elected secretary of the American Ophthalmological Society at its meeting at Hot Springs, Va., early in June. At this time, Dr. Arnold Knapp, New York, was installed as president, and Dr. Edward C. Ellett, Memphis, Tenn., was made president-elect.

Dr. Hubert Holsinger,

Of the class of '28, University of Virginia, at which place he has been located since graduation, left in June for New Haven Hospital, New Haven, Conn., where he has entered upon an assistant residency in surgery.

Roche Builds Again.

In these days of business retrogression, while the "repression" is supposedly on, it is pleasing to hear of at least one company whose increasing business warrants a further extension of its present manufacturing facilities. On June 11th, a little less than a week before the first anniversary of Hoffman-La Roche,

Inc., in their new home at Nutley, New Jersey, ground was broken for two new buildings.

The pictures in the Roche ad in this issue attempt to reveal only a few of the interesting sights to be seen by any physician who visits these ultra-modern scientific laboratories in Nutley. Visitors, always welcome, marvel at the immaculate cleanliness, abundance of light, intricate apparatus and meticulous care exercised in each manufacturing process. If you did not receive a copy of "The Doctor Visits Roche" write to the Roche Scientific Department for this interesting booklet.

Texas Plans for Parent Education.

The establishment of a foundation for child welfare and parent education in the University of Texas is the purpose of a special committee, which is planning to raise the needed funds—$100,000—through popular subscription. The method proposed is to get donations of $50 each to be given in the name of individual children, whose names then would be entered in a "Founders' Book" to be preserved in the archives of the university.

Dr. R. W. Browne,

Who has been a member of the Medical Society of Virginia for a number of years, has just been transferred from the U. S. Veterans' Hospital, Ft. Bayard, N. Mex., to the U. S. Veterans' Hospital, Walla Walla, Wash.

Dr. George H. Long,

Luray, Va., was re-elected chairman of the Page County Republicans in a mass meeting held at Luray, early in July.

Dr. George B. Fadeley,

Falls Church, Va., was elected president of the Falls Church, Va., bank, at the annual meeting of the stockholders and directors early in July.

Dr. William A. Reese,

Petersburg, Va., has been appointed as city physician of Petersburg, to look after the sick poor of that city. He entered upon his duties on August the 1st.

The Duke Hospital,

Opened in Durham, N. C., on July 21st, is considered by experts to be one of the best equipped hospitals in the world. The staff is headed by Dr. Wilburt C. Davison, formerly assistant dean of Johns Hopkins, and includes approximately seventy prominent physicians and surgeons representing every specialized field of medical science.

The cost of the hospital was $4,000,000, the greater part of this coming from the endowment established by the late James B. Duke. The building has four main floors and a tower mounting to eight stories and, including the courts, covers three acres. The hospital has 400 beds and 50 bassinets. When in full operation it will have 200 nurses. The building is in three main divisions—the medical school, the hospital and the intermediate diagnostic laboratories.

A Half-Century of Service.

During the half-century of work of the Brooklyn Society for the Prevention of Cruelty to Children 250,000 complaints of abuse and cruel treatment involving 850,000 children were received and investigated at a cost of nearly $2,500,000.

The National Board of Medical Examiners,

At its recent annual meeting, elected the following officers: Dr. Waller S. Leathers, President; Everett S. Elwood, Executive Secretary; Dr. J. S. Rodman, Medical Secretary. In addition to the officers, eight new members were elected for terms of six years each.

Reports of the officers of the Board showed an increase of approximately ten per cent in the number of candidates taking the examinations during the past year as compared with the year previous.

The number of state boards now recognizing the National Board's certificate totals forty besides the territories of Hawaii and Porto Rico and the Canal Zone. Partial recognition is also granted by England, Scotland, Ireland, and Spain.

Examinations in Part I and II were scheduled and given in forty-one centers throughout the country; there being a total of 707 candidates registered for Part I and 337 for Part II. Examinations in Part III, the clinical and practical examination, were held in sixteen centers in June and July with approximately 280 registered candidates.

San Francisco Sunshine School.

Seventy-two crippled children are being educated for self-help and self-support in the Sunshine School of San Francisco. They come from all parts of the city—in taxis provided by the city if they have no other means of conveyance. The subjects studied are much the same as in the other city schools, except that manual training and handicrafts are emphasized. Nourishing food is provided, rest periods and suitable exercises form part of the

XUM

program, and stress is laid upon personal hygiene.

Dr. Thurman D. Kitchin,

For the past thirteen years dean of the Wake Forest College School of Medicine, at Wake Forest, N. C., was recently elected president of the Wake Forest College.

Dr. George W. Parson,

Formerly of Raven, Va., but who has spent some time in Kansas City., Mo., since doing special work at Mayo Clinic, announces that on August 1st, he located at 525 Olive Street, Texarkana, Texas.

Dr. J. Lewis Blanton,

Formerly of Fieldale, Va., after studying in the North, has located at 192 West State Street, Trenton, N. J., where he is limiting his work to pediatrics.

Dr. Robley R. Goad,

Of the class of '25, Medical College of Virginia, after completing special work in ophthalmology at the University Hospital, Iowa City, and at the Episcopal Hospital, Washington, D. C., has located in Laurel Building, Muscatine, Iowa, for the practice of his specialty.

Cardiac Round Table.

The Physicians Hospital of Plattsburgh, Plattsburgh, N. Y., will hold its second annual Cardiac Round Table on Friday and Saturday, August 22nd and 23rd, in connection with the summer course in cardio-nephritis. Visitors are advised that hotel accommodations should be secured well in advance. Suitable reservations will be made by a representative of the Instruction Committee of the Hospital, upon request.

Dr. A. R. Shands, Jr.,

Formerly of Washington, D. C., an alumnus of the University of Virginia, Department of Medicine, has just located at Durham, N. C., where he is in charge of the orthopedic work in the Duke University School of Medicine and Hospital.

"Cub Scouts."

The "Cub Scout," a boy of 9, 10, or 11 years, too young to become a regular Boy Scout, has arrived in this country. The program for these junior scouts will differ essentially from that of their older brother scouts by being carried out mostly in the home back yard and neighborhood, and when they go on hikes the "cubs" will always return to the home "hangar" at night. The leaders will be mothers, younger boy leaders, and older boy scouts, with a "cubmaster" responsible to the sponsoring council. A special committee, financed by a grant from the Laura Spelman Rockefeller Memorial Fund has prepared the program for this extension of the scout organization.

The U. S. Civil Service Commission,

Washington, D. C., announces open competitive examination for Senior Medical Officer (Psychiatry), applications for which must be on file with the Commission not later than August 27, 1930.

Dr. Lewis A. Law,

Alberta, Va., spent the month of July at the Harvard Medical School, taking postgraduate work in cardio-vascular diseases.

Dr. Charles L. Savage,

Who recently completed his interniship at the University of Virginia Hospital, has become one of the assistant physicians to the Blue Ridge Sanatorium, Sanatorium, Va.

Dr. Hunter H. McGuire,

Winchester, Va., was elected vice-chairman of the Section on Ophthalmology of the American Medical Association, at its recent meeting in Detroit.

Compulsory Education of Blind and Deaf Children in Virginia.

The Virginia Legislature at its 1930 session passed measures making compulsory the education of all deaf and blind children of the State and authorizing local school authorities of cities and counties, in cooperation with the Virginia Commission for the Blind, to establish and maintain special classes for the education of blind and partly blind children in the public schools.

Dr. Herbert W. Rogers,

Norfolk, Va., was recently elected a member of the Norfolk City School Board for the term of one year.

Dr. and Mrs. A. T. Finch,

Chase City, accompanied by Miss Margaret and William Finch and Mrs. Thomas Fry, sailed from New York on the steamship "*Lapland*," July 11th, for a vacation in Europe. In Paris, Dr. and Mrs. Finch met their daughter, Miss Mary Finch, who has been on duty at the Methodist Girls' Training School in Hiroshima, Japan, and is now coming home on a furlough. The party will tour France, England, Switzerland, Italy, and visit the

Passion Play before returning to the States the last of August.

Dr. Charles Y. Griffith,

Of the class of '29, Medical College of Virginia, upon completing his service as house physician and surgeon at the Hazleton State Hospital, Hazleton, Pa., June 30th, located at Mount Holly, Va., for general practice.

Dr. Harry R. Seelinger,

Norfolk, Va., has been named junior vice-commander of the Virginia Department of Veterans of Foreign Wars.

Dr. J. B. Harvie Waring,

Cincinnati, Ohio, visited friends and relatives in Richmond, Va., around the fourth of July.

Street Shower Baths for Philadelphia Children.

About 300 showers attached to fire hydrants in the congested sections of Philadelphia are expected to bring joy this summer to many thousands of Philadelphia children. Each shower will be in the care of a fire station, a settlement house, or some responsible person, and will be operated on a definite schedule.

Dr. Buckner Magill Randolph,

Professor emeritus of clinical medicine in George Washington University, announces his removal from Washington, D. C., to 205 East High Street, Charlottesville, Va. He will limit his practice to internal medicine.

Dr. John M. Bishop,

Who practiced for a time at Appalachia, Va., has just returned after a year of post-graduate study in the North, and has opened an office at 511 Medical Arts Building, Roanoke, Va., where he will limit his practice to pediatrics.

Dr. O. Kyle Burnette,

Of the class of '29, Medical College of Virginia, upon completing his internship, July 1st, with the Medical College of Virginia, Hospital Division, at Richmond, located in Culpeper, Va., where he has become associated with Dr. D. W. Kelly in general practice.

Dr. S. E. Hughes, Jr.,

Formerly of Danville, Va., who has been practicing in California for some time is now in Monrovia, Calif., where he will assist Dr. E. W. Hayes for several months in his practice of diseases of the chest.

Dr. Harry Bear,

Richmond, Va., former president of the Virginia State Dental Association and dean of the School of Dentistry of the Medical College of Virginia, was elected president of the American Society of Oral Surgeons and Exodontists at its annual meeting just held in Denver, Colo.

Lantern Slide Demonstrations on Diseases and Tumors of Bone.

Dr. Joseph C. Bloodgood, of the Garvan Cancer Research Laboratory of the Surgical Pathological Laboratory, Johns Hopkins University, announces that on September 15th, 16th, and 17th, there will be a meeting in the ballroom of Belvedere Hotel, Baltimore, Md., during which time there will be lantern-slide demonstrations, with four lanterns and screens, on the Diagnosis and Treatment of Diseases and Tumors of Bone. Any member of the medical profession interested in this subject is invited, but, on account of the size of the ballroom, the number must be limited to 800.

For details in regard to this demonstration, address Miss Maude Walker, secretary to Dr. Bloodgood, Surgical Pathological Laboratory, Johns Hopkins Hospital, Baltimore, Md.

Detroit's Nursery Schools for Children of Working Mothers.

Detroit's Public Welfare Department is tackling the problem of caring for children below school age from families applying for aid in which the mother has to work away from home. It is now organizing a second nursery school for that purpose after a year's experience with its first school. The aim of the schools is to give the children the benefit of modern methods of child care, to educate the parents, and to provide a laboratory of child care for high school students.

Technician Desires Position.

Technician with five years' actual experience in X-ray and laboratory work desires position in clinic or hospital. Graduate in laboratory course at Post-Graduate Hospital and Medical School, Chicago. Address "A. B." care this journal. (*Adv.*)

Wanted.

Medical resident, active medical service, 100 bed hospital, at once, to serve through June 30, 1931. Full maintenance and $75.00 per month. Address Chesapeake and Ohio Hospital, Clifton Forge, Va. (*Adv.*)

Wanted.

Two internes, Petersburg Hospital, 75-bed capacity, rotating service, ending June 30, 1931. Full maintenance, $75.00 per month

each. Address, Superintendent, Petersburg Hospital, Petersburg, Va. (*Adv.*)

Wanted

Association with established surgeon or group. Graduate of Medical College of Virginia, with three years' hospital training, majoring in surgery. Single. Protestant. Age 29. Address No. 242, care this journal. (*Adv.*)

Obituary Record

Dr. Schuyler Barclay Moon,

Well-known physician of Richmond, Va., died suddenly July 12th, after having been in ill health for some months. Dr. Moon was a native of Albemarle County and was sixty-three years of age. He graduated from the Medical College of Virginia in 1905, and was a pioneer in the treatment of rabies, having succeeded Dr. Hoen as director of the Pasteur Institute of Virginia. For a number of years, he had been instructor in pathology at the Medical College of Virginia and was a member of the staff of Grace Hospital. Dr. Moon had been a member of the Medical Society of Virginia for the past twenty-five years. His wife and one daughter survive him.

Dr. Jesse Garvin Carter,

Richmond, Va., died June 27th at a hospital in Lyman, Miss., of acute angina pectoris, after an illness of several months. He was forty-four years of age and graduated from the Medical College of Virginia in 1918. Dr. Carter had been a member of the Medical Society of Virginia for the past ten years. His wife survives him.

The following resolutions were adopted on the death of Dr. Carter:

WHEREAS, the Manchester Medical Society having learned with deep sorrow of the death of its member, Dr. J. G. Carter, it is hereby

RESOLVED: That this Society feels that it has lost one of its most valued members, whose constant presence at our meetings, whose willing participation in our discussions and deliberations, and whose genial personality added greatly to the pleasure and the value of our meetings. We feel, furthermore, that in his death a great loss has been sustained by the community at large.

RESOLVED, Secondly: This Society tenders to the bereaved family our sincere sympathy in this hour of distress; that a copy of these resolutions be transmitted to them; also that a copy be sent the VIRGINIA MEDICAL MONTHLY for publication.

A. C. MONROE,
J. G. LOVING.

Dr. John Herndon French,

New York City, a member of the Medical Society of Virginia since 1886, died February 13, 1930, in his seventy-first year. Dr. French was born in Fredericksburg, Va., and was an alumnus of Virginia Military Institute, class of 1879, and also of the New York University, 1882, and of Bellevue Hospital. He went to New York at an early age but always maintained an affection for his native state which he visited each year. His body now rests in the old Confederate Cemetery in Fredericksburg. He is survived by his widow, two sons and two daughters.

Dr. Charles Solomon Lawrence,

Founder of the Lawrence Hospital, Winston-Salem, N. C., died June 21st, at the age of fifty-two years. He was graduated from the George Washington University Medical School in 1908 and practiced at Mt. Airy, N. C., for several years before locating in Winston-Salem. He was a veteran of the Spanish-American and World Wars. He was a prominent surgeon and an ex-president of the North Carolina State Hospital Association. His wife survives him.

Dr. Lynn J. Gallup,

Norfolk, Va., died in Marion, Va., May 4th, of cerebral hemorrhage. Dr. Gallup was fifty-two years of age and had graduated in medicine from the College of Physicians and Surgeons of Baltimore, Md., in 1898.

Dr. John Albert Patterson,

Concord, N. C., who graduated from the former University College of Medicine, Richmond, Va., in 1911, died May 17th of a kidney infection. He was forty-seven years of age. Dr. Patterson was a member of the staff of the Concord Hospital and a member of the Medical Society of the State of North Carolina.

Dr. Averley Claude Holmes Russell,

Medical inspector, commander, U. S. Navy, retired, died in Nice, France, June 3rd, at the age of seventy-six years. He was graduated in medicine from the University of Virginia in 1878 and entered the navy the following year.

Dr. Walter M. Brickner,

Editor of the *American Journal of Surgery* since its establishment in 1905, died suddenly July 22nd, at his summer home on Long Island. Death was due to angina pectoris. Dr. Brickner was fifty-five years of age and a graduate of the New York City College and of the College of Physicians and Surgeons of Columbia University. His wife survives him.